

Community Assistantship Program

**Houston County Trail
Development Master Plan**

Houston County Trail Development Master Plan

Prepared in partnership with
Houston County Trails Group

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Table of Contents

<u>Section One: Introduction</u>	<u>2</u>
<u>Sections Two: Potential Trail Use</u>	<u>7</u>
<u>Section Three: Natural and Cultural Resources Inventory</u>	<u>10</u>
<u>Section Four: Outstanding Issues</u>	<u>26</u>
<u>Section Five: Trail Alignments</u>	<u>27</u>
<u>Section Six: Public Meeting Summary and Future Work</u>	<u>31</u>
<u>Appendix</u>	<u>33</u>

SECTION ONE - INTRODUCTION

REPORT PURPOSE

In January, 2005, the Houston County Trails group, in conjunction with the National Park Service Rivers and Trails Division and the Community Assistantship Program at the Center for Urban and Regional Affairs at the University of Minnesota, began a concerted effort to document the planning efforts of a trail system in Houston County. This report includes inventory and assessment information pertinent to the trail planning process, focusing primarily on the trail segments between La Crescent and Hokah and Hokah and Houston. The information presented in this report will eventually be included in a final trail master plan to be completed by Minnesota Department of Natural Resources Trails and Waterways staff.

PLANNING PROCESS: PURPOSE AND SCOPE

In planning for a multi-use trail in Houston County, it is important that projected trail impacts be assessed and evaluated to guide the decision making process. This planning process includes identifying and evaluating the natural and cultural resources within the proposed trail corridor, landowner issues and the regulations of governing bodies. After identifying and evaluating these issues, preferred trail alignments can be considered.

PROCESS	PARTIES INVOLVED
Information Gathering and Issue Identification (all segments) <ul style="list-style-type: none"> • Field Visits • Natural Resources Inventory • Cultural Resources Inventory • Property Ownership Identification • Regulatory Issues • Public Agency Plans • Review progress with Trail Group monthly • Open House Meeting 	Houston County Trails Group National Park Service Representative U of M Student Intern Communities Resource Managers Local Landowners
Formulate Vision, Goals, and Design Concepts (all segments) <ul style="list-style-type: none"> • Discuss vision and goals at monthly meeting • Review Design Concepts monthly 	Houston County Trails Group National Park Service Representative U of M Student Intern Communities Resource Managers
Identify Potential Trail Alignments (La Crescent to Hokah) <ul style="list-style-type: none"> • Identified 3 potential alignments, 1 preferred alignment • Final alignment pending decisions regarding Root River and potential public land ownership changes. • Document Trail Alignments in both map and written form. 	Houston County Trails Group National Park Service Representative U of M Student Intern Resource Mangers

TRAIL AUTHORIZATION

The six mile section of trail connecting La Crescent and Hokah and the 12 mile section between Hokah and Houston are portions of the Blufflands Trail system. The Blufflands Trail system, which includes Fillmore, Olmstead, Winona, and Houston counties, was legislatively authorized in 1992 according to the Minnesota Statutes 85.015, Subdivision 7.

- (a) The Root River Trail shall originate at Chatfield in Fillmore County, and thence extend easterly in the Root River Valley to the intersection of the river with Minnesota Trunk Highway No. 26 in Houston County, and extend to the Mississippi River.*
- (b) Additional trails may be established that extend the Blufflands Trail system to include La Crescent, Hokah, Caledonia, and Spring Grove in Houston County. In addition to the criteria in section 86A.05, subdivision 4, these trails must utilize abandoned railroad rights-of-way where possible.*
- (c) The trails shall be developed primarily for non-motorized riding and hiking.*

The Blufflands State Trail system is one of the legislatively authorized state trails in the Minnesota State Trail System. State trails are one unit of the state's outdoor recreation system established by the Legislature. In 1975, the Minnesota Legislature enacted the Outdoor Recreation Act (ORA) (Minnesota Statutes, Section 86A.05, Subdivision 4 and Section 85.015). This act established an outdoor recreation system comprised of eleven components or "units" classifying all state-managed recreation lands. The ORA requires that the managing agency prepare a master plan for the establishment and development of each unit. The information in this plan can be used to fulfill this mandate.

The Blufflands State Trail, including the La Crescent – Hokah and Hokah - Houston connections, adheres to the following criteria established in section 86A.05, Subdivision 4, State Trail: purpose; resource and site qualifications; administration; designation.

- (a) A state trail shall be established to provide a recreational travel route which connects units of the outdoor recreational system or the national trail system, provides access to or passage through other areas which have significant scenic, historic, scientific, or recreational qualities or reestablishes or permits travel along an historically prominent travel route or which provides commuter transportation.*

The proposed trail alignments are legislatively authorized as part of the Blufflands State Trail and will make connections into Houston, Olmstead, Fillmore and Winona counties. In addition to connecting to Minnesota State Trails, they will also provide access to the Wisconsin State Trail system which ends in La Crosse at the state border.
- (b) No unit shall be authorized as a state trail unless its proposed location substantially satisfies the following criteria:*
 - (1) Permits travel in an appropriate manner along a route which provides at least one of the following recreational opportunities.*

(i) travel along a route which connects areas or points of natural, scientific, cultural, and historic interest

The La Crescent-Hokah segment connects the communities of La Crescent and Hokah and runs through the Root River valley and adjacent to the Mississippi River valley. These two river valleys influenced the development of the rich cultural and historical resources possessed by these two communities. The Upper Mississippi River US Fish and Wildlife Refuge lies east of the trail, while the Root River Wildlife Management Area lies to the north of Hokah.

The Hokah-Houston segment continues to run through the Root River valley. The Mound Prairie Wildlife Management Area is located between these communities as is a portion of the Richard J. Doerer Hardwood State Forest. The public lands in both segments add to the natural and scientific interest of the trail.

Additionally, both segments run through the same river valleys as the Historic Bluff Country Scenic Byway which runs east-west from La Crescent to Dexter along US Highway 16 and the Great River Road which follows the Mississippi River from Lake Itasca in northern Minnesota all the way to the Gulf of Mexico.

(ii) travel through an area which possesses outstanding scenic beauty;

Trail users will enjoy the outstanding scenic beauty provided by the dramatic bluffs unique to the southeastern portion of Minnesota. Additionally, the bluffs appear more dramatic when contrasted with the wetlands which are prevalent in the area between La Crescent and Hokah and the agricultural fields between Hokah and Houston.

(iii) travel over a route designed to enhance and utilize the unique qualities of a particular manner of travel in harmony with the natural environment;

Wherever it is possible, it is recommended that the trail alignment take advantage of an abandoned railroad bed. By utilizing the abandoned rail grade, trail users will be able to enjoy the natural and cultural amenities, with reduced impact to the environment. Additionally, the trail affords bikers, hikers, and wildlife enthusiasts a way to safely enjoy the scenery and cultural and natural amenities by separating slower-paced trail users from faster-paced highway users.

(iv) travel along a route which is historically significant as a route of migration, commerce, or communication;

In the 1850's, steamboats used the Root River to reach Hokah and Houston. Later, the railroad grade, once utilized by the Southern Minnesota Railroad and then by the Chicago, Milwaukee and St. Paul Railroad, was replaced the steamboats. This railroad was the first to connect the communities of Houston, Hokah and later, La Crescent to the more distant cities of St. Paul, Milwaukee and Chicago.

(v) travel between units of the state outdoor recreation system or the national trail system; and

The segments between Houston, Hokah, and La Crescent are part of an as-yet unrealized Blufflands Trail System. The completion of these sections will allow connections to

trails such as the Shooting Star State Trail, Stagecoach State Trail and Goodhue Pioneer State Trail. Additionally, this trail will allow for access to trails connecting La Crescent to La Crosse, allowing for access to the Wisconsin State Trail System. Finally, the La Crescent-Hokah-Houston Trail will allow long-distance cyclists a side journey from the Mississippi River Trail, which is bike trail that will follow the Mississippi River from northern Minnesota to the Gulf of Mexico.

(2) Utilizes, to the greatest extent possible consistent with the purposes of this subdivision, public lands, rights-of-way, and the like; and

A portion of the trail will utilize an abandoned railroad bed. Remaining portions of the trail will utilize road and rail right-of-ways as well as public and private land holdings.

(3) Provides maximum potential for the appreciation, conservation, and enjoyment of significant scenic, historical, natural, or cultural qualities of the areas through which the trail may pass; and

By concentrating trail development to the abandoned rail road grade whenever possible, the impacts of new trail development will be minimized in this unique area. By developing the trail in this manner, the wetlands in the area will be protected from impacts. Likewise, the trail offers a safe option, in an incredibly beautiful river valley, for commuters and recreational users alike.

(4) Takes into consideration predicted public demand and future uses

A count of the number of bicyclists on Highway 16 south of La Crescent has been completed, showing not only the number of bicyclists, but also the number of bicycles on cars. The information from this report shows that bicycling is a thriving activity and one in which an area trail could provide for.

TRAIL VISION

The Houston County Trail System is people out safely enjoying the unique natural beauty of this area in all seasons while improving their personal health and well being.

Trail Purpose

- Improve the quality of life for local residents.
- Provide a safe way to recreate, and to commute to work or school
- Showcase the positive scenic, historic and natural assets and amenities of the area

TRAIL GOALS

Overall Goal:

- Complete the Houston County portion of the Blufflands State Trail System, by developing a loop trail connecting with the Harmony/Preston and Root River Trails that passes through all of the cities in Houston County.

Connection Goals:

- Connect the Wisconsin and Minnesota trail systems in the Seven Rivers Region and the Mississippi River corridor to provide an interstate trail option, making this trail system a preeminent trail system in the nation.
- Connect to and complement the Mississippi River trail system, the Great River Road National Scenic Byway, and the Historic Bluff Country National Scenic Byway.
- Connect and provide directional signs to points of interest in Houston County in order to encourage appreciation of the area's historic and natural features. Points of interest include:
 - Beaver Creek State Park
 - Historic sites, including Schech's Mill, the historical village at the County Fairgrounds, Caledonia's Historic Register buildings, and other historic sites
 - Natural history features, such as: the hills and valleys, the wildlife of the Root River bottoms, the Blufflands scenery, and the driftless region
 - The Upper Mississippi River Wildlife Refuge and the Mississippi River.

Community Goals:

- Maximize benefits for local residents and communities as a top priority
- Pursue the following lower priority community goals where possible:
 - Encourage tourism related businesses, such as lodging and retail services
 - Build on the success of Houston and other communities with trails to revitalize the downtown areas of Houston County's cities.
 - Increase opportunities for agricultural and eco-tourism, such as the bee farm.

SECTION TWO – POTENTIAL TRAIL USES

RECOMMENDED TRAIL USES

The trail connecting La Crescent and Hokah and Hokah and Houston is primarily a multi-use trail, with different uses appropriate at different times of the year. Although the state of Minnesota does not currently specify seasonal trail openings or closures, due to the flood conditions in this area, it may be wise to limit certain uses to specific times of the year in order to minimize damage to the trail. Respecting seasonal trail use limitations will aid in preserving and maintaining the trail. It is also important to note that motorized vehicles are only allowed on certain sections of the trail, and only during the winter. At all other times, motorized vehicles are prohibited.

Non-winter Uses

Bicycling
Hiking/Walking
Dog Walking
Running/Jogging
Horseback Riding (limited sections)

Winter Uses

Hiking/Walking
Cross-Country Skiing
Snowshoeing
Snowmobiling (limited sections)

Non-Winter Uses

Bicycling

Bicycling is a popular activity in Minnesota, with over 350 miles of paved state trails to accommodate a portion of this rising demand. Although advanced cyclists often prefer riding on roads, trails provide a more comfortable and safer option for casual cyclists and children. Bicycling is a recommended use throughout the entire length of the trail.

Hiking and Walking

The relative flatness of this trail lends itself to hiking and walking activities. Second only to bicycling, hiking and walking are popular low-impact cardiovascular fitness activities on state trails. This trail provides these users with a safe alternative in which to enjoy the beauty of the surrounding Blufflands without forcing them to use busy highway shoulders. Hiking and walking are recommended as a use on the entire length of this trail.

Running and Jogging

Runners and joggers can utilize this trail as well. Local school track and cross-country teams will be able to use this scenic trail for training purposes. Running and jogging are recommended uses along the entire length of the trail.

Dog Walking

Dog walking is recommended and allowed along the entire length of the trail so long as dogs are leashed and owners properly dispose of pet wastes. State trail rules require all pets to be attended and restrained by a leash of not more than six feet in length.

Horseback Riding

Horseback riding is a popular activity in Southeastern Minnesota and there is a horse boarding stable on County Highway 7. Given the proximity to a boarding stable, horseback riding is a desired use for the La Crescent to Hokah segment. It is suggested that horseback riders be allowed to ride the trail between the stable and Hokah, where riders can then proceed on private horse trails into the bluffs. A horseback riding trail could be within the same corridor as the bicycle trail, or in its own corridor. If within the same corridor as the bicycle trail, the horseback trail would need to be separate from the bicycle trail. Horseback riding is recommended only along sections of the trail where width can accommodate the use, from the stables to Hokah where it can connect to private horse trails. Horseback riding as a potential use between Hokah and Houston has not been assessed.

Winter Uses

Cross-Country Skiing

The relatively flat terrain of this trail makes cross-country skiing a possible winter use, provided the trail is not plowed for hikers or walkers. Cross-country skiing is allowed on the paved treadway of the trail only and is a recommended use along the entire length of the trail.

However, the use of cross-country skis on this trail will largely be determined by user demand and maintenance practices. Should the trail be plowed in the winter months, cross-country skiing is **not** a recommended use on this trail.

Snowshoeing

Provided there is enough snow, snowshoeing is a possible use in this trail corridor. Snowshoers should avoid cross-country ski lanes, but are welcome to utilize remaining areas of the treadway. As noted above with the use of cross-country skis, the use of snowshoes on the trail will be determined by user demand and maintenance practices. If the trail is plowed during the winter months, snowshoeing is **not** a recommended use on this trail.

Snowmobiling

Snowmobiling is a thriving activity in Southeastern Minnesota and many snowmobile clubs in the area support snowmobiling as a use on this trail. Additionally, by accommodating and limiting snowmobile use to this trail, environmental impacts are limited to the trail corridor. This is especially important in the area between Hokah and Miller's Corner since most of the area includes wetland environments. A separate, unpaved treadway is required for snowmobile use and is recommended only where width can accommodate the use.

A snowmobile trail included in the trail corridor will allow for connections to existing snowmobile trails and is especially pertinent to the planning of this multi-use trail between Miller's Corner and Hokah because of recent land acquisition by the US Fish and Wildlife Service. USFWS does not allow the use of snowmobiles on its property. However, some of the lands acquired previously included designated snowmobile trails (a map of current trails is

included, Figure 1). Local snowmobilers therefore have a strong desire to relocate the trails to comply with USFWS. This multi-use trail could potentially accommodate this desire. This multi-use trail could potentially accommodate this desire, without displacing existing trails.

SECTION THREE – NATURAL AND CULTURAL RESOURCES INVENTORY

NATURAL RESOURCES INVENTORY

Ecological Classification System

La Crescent to Houston

The Houston County Trail corridor from La Crescent to Hokah and from Hokah to Houston lies within the Blufflands subsection of Minnesota. The Blufflands are a subsection of the Paleozoic Plateau of southeastern Minnesota. Characterized by bluffs and stream valleys up to 600 feet deep, the landscape is highly dissected by the major rivers running through southeastern Minnesota. In the southeast portion of this subsection, where the proposed trail lies, loess overlies a red clayey residuum that was formed directly from limestone or sandstone. The thickness of the loess varies considerably from less than a foot on valley walls to as thick as 30 feet on the broad ridge tops.

A major conservation concern in this area is groundwater quality. About half of this subsection is used for agricultural purposes, either for cropland or pasture, and the resulting pollutants from these uses causes there to be high amounts of nitrates and phosphates in the groundwater. Additionally, since much of the land within the corridor and on the surrounding bluffs is used for agriculture purposes soil erosion and water run-off are concerns as they in turn affect groundwater quality.

Climate

La Crescent to Houston

Houston County, like the rest of Minnesota, experiences a continental climate where cold air from the Arctic pushes through, resulting in colder temperatures during the winter months. In the summer months, the climate is influenced by the warm air pushing northward from the Gulf of Mexico and southwestern United States. The Pacific Ocean air masses that push through the state produce relatively mild and dry weather throughout the year.

The mean annual temperature of southeastern Minnesota, where Houston County is located, is approximately 49 degrees Fahrenheit. Mean annual precipitation for this area of the state is 34 inches. The area receives roughly 40 inches of snowfall annually.

Geology

La Crescent to Houston

Unlike the other regions of the state, southeastern Minnesota is characterized by the presence of dramatic bluffs and deep valleys. As identified by the Ecological Classification System, this area is referred to as the Paleozoic Plateau or Blufflands. In Houston County, there is very little sign of past glaciations, evidenced by the lack of glacial deposits in the area. The landforms are not characterized by a layer of glacial drift like many other parts of the state but instead are characterized by a surface deposit of loess underneath which is a layer of limestone underlain by bedrock.

The bedrock, which is exposed along some valley walls, is comprised primarily of Ordovician dolomite, limestone, and sandstone. This bedrock was formed millions of years ago after an ancient warm inland sea retreated and left behind a thick layer of sediment. Over time, this

sediment was compressed and became dolomite. Due to the absence of glacial drifts, the ancient bedrock geology of the area can still be seen today.

Soils

La Crescent to Hokah (Figure 2)

For the most part, the soils between La Crescent and Hokah within the proposed trail corridor are hydric soils. Hydric soils are defined by the National Technical Committee for Hydric Soils as soils that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Under natural conditions these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation. Many of the hydric soils intersect with areas identified as being shallow marsh, especially east of Highway 16 between La Crescent and Hokah. In the Root River valley, the hydric soils intersect with areas that are identified as being seasonally flooded by the National Wetlands Inventory database. Therefore, the presence of hydric soils suggests that these areas could be reclaimed as wetlands if wetland hydrology and hydrophytic vegetation are also present.

There are a number of soil types that are suited to trail development along the trail corridor. These soils were identified by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) as not having limitations regarding path or trail development. The soils within approximately fifty feet of the highway corridor are also suited to trail development in addition to the soils south of the Root River between Hokah and Miller's Corner. Although not identified as such on the digital database, the soils that comprise the abandoned railroad bed include gravel base material and appear adequate for trail development. Therefore, it would be advantageous to build the trail within these areas to best maximize the suitability of the soils.

Hokah to Mound Prairie (Figure 3)

The soils between Hokah and Mound Prairie are primarily unsuitable for development. There are some pockets of suitable soils immediately adjacent to the Root River although these pockets are not consecutively connected. The number of unsuitable soils increases as distance from the Root River increases. However, similarly to the situation in the La Crescent – Hokah segment, the soils on the abandoned railroad bed have been altered and appear to be suitable for development.

Mound Prairie to Houston (Figure 4)

The majority of the soils between Mound Prairie and Houston are found to be suitable for trail development. There are some pockets of unsuitable soils near County Highway 25 which runs north-south between Mound Prairie and Highway 16. In this area, the abandoned railroad bed is not as clear to see, but since most of the soils are considered to be suitable, it is not as crucial to understand the soil suitability of the abandoned railroad bed.

FEMA Floodplains

La Crescent to Houston (Figures 5, 6, and 7)

The Mississippi River valley and the Root River valley are both located within a 100 year floodplain. Near the bluffs there are also pockets of 500 year floodplain. It is therefore likely that a proposed trail corridor would fall within the floodplain area, unless the trail went up and into the bluffs. A trail can be built within the floodplain, however, care must be taken not to alter the floodplain in any way. Additionally, if possible, new development should take advantage of any existing or abandoned developments, such as the abandoned railroad bed which runs south of the Root River.

Water Resources

The Houston County Trail segments running south and southwest from La Crescent to Hokah and west from Hokah to Houston include a variety of wetland and river water resources.

Watersheds

La Crescent to Houston

This portion of the trail lies within the Lower Mississippi River Basin, and includes the Root River, Mississippi River and La Crescent watersheds.

Rivers

La Crescent to Houston

The Root River, which begins in Mower County and drains into the Mississippi River, runs west to east just north of the cities of Houston and Hokah. Historically, this river meandered its way from Mower County to the Mississippi River, but in 1917, the river was straightened, starting about four miles west of Houston at Cushion's Peak and stopping just west of the Mississippi River. Levees were built at this time to minimize flooding of the surrounding towns and agricultural fields. Although some levees have failed, many still exist today, and the Root River runs more or less straight from Houston to the Mississippi River.

In February 2005, the Root River unexpectedly overflowed its banks and since that time many public and private entities have been reassessing and discussing the future of the river and valley, notably the area east of Hokah. Minnesota Department of Natural Resources (MNDNR), Houston County Soil and Water Conservation District, the US Fish and Wildlife Service (USFWS) and local landowners are exploring ideas to best handle the flooding situation. The US Army Corps of Engineers is undertaking a project to remodel the flood frequencies of the river. Until this modeling project is completed, an educated decision regarding the future of the Root River valley is unlikely.

Additionally, there have been discussions about improving the dikes which are currently failing to hold the Root River during flood events. Should the dike be improved, this may impact the current flood conditions of the area which would in turn impact the development of a multi-use trail. Additionally, MN DNR is also considering options which may allow conveyance (flooding) onto certain properties while maintaining the river channel in other areas. Still another option calls for total conveyance. If conveyance is allowed, either freely or in

constrained areas, the wetland conditions of the area will be impacted which would impact a proposed trail alignment.

Since the future of the valley and Root River dike is as yet unknown, it is difficult to discern concrete opportunities for trail development, especially in the La Crescent – Hokah segment. The pending decisions regarding the future of the valley are important considerations because they can affect the uses and alignment of the trail.

Although the Root River is the only major river in this portion of Houston County, there are a number of small intermittent streams, permanent creeks, and drainage ditches which feed into the Root River. Oxbow Creek runs southeast and intersects with State Highway 16 and meets with the Root River near the intersection of State Highway 16 and County Highway 7, just north of Hokah. For the most part, this stream runs on an intermittent to perennial basis.

There are no designated National Scenic Rivers in Houston County. However, Thompson's Creek, which runs primarily from west to east before it turns north near Hokah, feeds into the Root River from the south and is a state designated trout stream. Thompson's Creek includes a waterfall, also known as Como Falls, at Como Park east of downtown Hokah. Additionally, there are two state designated trout streams between Hokah and Houston. Storey Creek and Brush Valley Creek, which are both located in the Mound Prairie township are state designated trout streams.

There are also many unnamed intermittent and perennial streams running through the proposed trail alignment area. Additionally, there are a number of man-made drainage ditches located north of the Root River. These ditches were built by local farmers to aid in agricultural irrigation and to help control flooding in the area.

Lakes

La Crescent to Houston

There are no major lakes in this section of Houston County. There are some bodies of water that are identified by MNDNR as being lakes, however these bodies of water average 12,500 square meters and are less than six meters deep and may be better described as wetlands. These bodies of water are spread intermittently through out the area between the Mississippi River and Hokah.

The only two lakes identified lie east of Highway 16, south of La Crescent. Blue Lake includes a Littoral zone of larger deepwater habitat and shallow areas associated with lacustrine or riverine systems. Target Lake includes most of the open water both north and east of Highway 16 near La Crescent. This lake includes the Limnetic and Littoral zone of larger deepwater habitat.

Wetlands

La Crescent to Hokah (Figure 8)

The National Wetlands Inventory classifies the area east of La Crescent between Highway 16 and the Mississippi River as a shallow marsh or a wetland. The US Fish and Wildlife Service identifies part of this area as being 3, 4 or 5 type wetlands which are considered PWI Wetlands and are part of the Public Waters Inventory administered by the MN DNR. The remaining wetlands east of Highway 16 are Non-PWI wetlands and are administered by local or federal

governments per the Wetland Conservation Act. Generally speaking, development should avoid wetlands if at all possible or minimize impacts, and if this can not be done, provide mitigation measures.

The area between Miller's Corner and Hokah also contains wetlands. Although much of the area does not include wetlands, there are pockets of deep marsh where the soil is covered with 6" to 3' of water during the growing season. Additionally, there are pockets of shrub and woodland swamps where the soil is often waterlogged through much of the growing season. There are areas of wetland near the abandoned railroad bed, but the railroad bed seems to be roughly ten feet higher than the surrounding grade, and seems not to be identified as a wetland.

Hokah to Mound Prairie (Figure 9)

There are both PWI and Non-PWI wetlands located south and north of the Root River. For the most part, the wetlands are located west and south of the oxbow located midway between Hokah and Mound Prairie. The abandoned railroad bed runs directly through the middle of the most significant wetland area and appears to be about ten feet higher than the surrounding wetlands, and not a wetland itself. A wetland delineator should confirm this information to be certain.

Mound Prairie to Houston (Figure 10)

There are few wetlands in this section, although there are some Non-PWI wetlands near Mound Prairie. The abandoned railroad bed runs north and avoids these wetlands.

Vegetation

La Crescent to Hokah

Presettlement Vegetation

According to the map completed by Francis J. Marschner between 1853 and 1854, published by MNDNR, the majority of the proposed trail corridor was once identified as a wet prairie which included species such as marsh grasses, flags, rushes, wild rice, and willow. The southern half of the Root River valley was considered a river bottom forest made up of elm, ash, cottonwood, boxelder, silver maple, willow, aspen, and hackberry. An upland forest community dominated the surrounding bluffs with bur oak, white oak, red oak, northern pin oak, elm, basswood, ash, maple, hornbeam, aspen, and birch species.

Present Vegetation

The vegetation within the trail corridor ranges from having little native significance to areas ranked as having high amounts of native vegetative biodiversity. The areas with high amounts of native vegetative biodiversity are concentrated within the US Fish and Wildlife Refuge east of Highway 16 and exhibits very good quality occurrences of the rarest native species. Additionally, the area functions as an important native habitat. The primary habitat in this area is the mixed emergent marsh, which is dominated by the river bulrush (*Scirpus fluviatilis*), common reed grass (*Phragmites australis*), sessile-fruited arrowhead, (*Sagittaria rigida*), broad-leaved arrowhead (*Sagittaria latifolia*) and cattails. Closer to the Mississippi River on the seasonally flooded alluvium soils the vegetation is dominated by floodplain forests; Silver Maple in the frequently flooded broad muddy flats, and Swamp White Oak in the areas that are less severely flooded. The dominant species in these floodplain forests are Silver Maple (*Acer*

saccharinum), American elm (*Ulmus Americana*), Green Ash (*Fraxinus pennsylvanica*, *F.americana*), Hackberry (*Celtis occidentalis*), River Birch (*Betula nigra*) and Swamp White Oak (*Quercus bicolor*). Of special interest in those areas dominated by the Swamp White Oak is Davis' sedge, a rare species associated with that forest type.

The portion of trail corridor running from Hokah to Miller's Corner exhibits low-quality biodiversity. In this area, the native vegetation has been damaged by human activities, primarily farming.

Rare Plant Species

The rare species are protected under the provisions of the Federal Endangered Species Act or the Minnesota Endangered Species Statute and associated Rules. A species list is included in the Appendix.

After some initial trail alignments between La Crescent and Hokah were delineated, a proposed trail corridor was submitted to the Minnesota Natural Heritage and Nongame Research Program for review. They determined that there are 78 known occurrences of rare species or plant communities within an approximate one-mile radius of the proposed trail alignment (Trail Option C). Two areas are identified as being "Sites of Biodiversity Significance", or areas that may contain high quality native plant communities, rare plants, rare animals or animal aggregations. The two sites identified by the Natural Heritage database are located west of Highway 16 and east of the railroad in T104N R4W Sections 15 and 22. However, the Natural Heritage and Nongame Research Program support the current trail alignment in these sections because the trail runs between the highway and the railroad, thereby avoiding these ecologically sensitive sites. A copy of their report is in the Appendix.

Hokah to Houston

Presettlement Vegetation

In the segment between Hokah and Houston, the 1853-1854 Marschner map indicates that the areas was a river bottom forest made up of elm, ash, cottonwood, boxelder, silver maple, willow, aspen, and hackberry. Similar to the La Crescent-Hokah segment, an upland forest community dominated the surrounding bluffs, along with oak openings and dry and mesic prairies.

Present Vegetation

There is a significant amount of high quality native vegetation between Hokah and Houston, primarily mid-way between Hokah and Mound Prairie, near the Mound Prairie Wildlife Management Area and the Mound Prairie Scientific and Natural Area. In addition to the mixed emergent swamps and floodplain forests which are also found in the La Crescent – Hokah segment, there are also shrub swamps with high quantities of willows (*Salix spp.*), red-osier dogwood (*Cornus stolonifera*), and false indigo (*Amorpha fruticosa*). There are also portions of dry prairie, defined by little and big bluestem, Indian grass, side-oats grama, porcupine grass, and prairie dropseed (*Sporobolus heterolepsis*). The oak forest subtype is dominated by various oak species including red oak (*Quercus rubra*), white oak (*Quercus alba*), northern pin oak (*Quercus ellipsoidalis*), bur oak (*Quercus macrocarpa*), as well as basswood (*Tilia Americana*), and sugar maple (*Acer saccharum*) among others. White pine hardwood forests are also found in

this area and include many of the same species found in the oak forest in addition to the white pine (*Pinus strobes*).

There are few, if any, native plant communities west of Mound Prairie.

Rare Plant Species

The rare species are protected under the provisions of the Federal Endangered Species Act or the Minnesota Endangered Species Statute and associated Rules and are included in the Appendix of this document.

Wildlife

La Crescent to Hokah

The high quality vegetation located within the Upper Mississippi River Fish and Wildlife Refuge, just east of State Highway 16, provide habitat to rare and endangered wildlife species as well. There are also some species located between Miller's Corner and Hokah, although according to the Minnesota Natural Heritage and Nongame Research Program, the locations of these species may not hinder the location of a trail. A list of rare and endangered wildlife species is included in the appendix as well as a copy of the Minnesota Natural Heritage and Nongame Research Program list.

Hokah to Houston

As can be expected, the rare and significant vegetation located midway between Hokah and Mound Prairie supports some rare and endangered wildlife species. This list is included in the appendix. Since a route has not yet been determined for this segment, Minnesota Natural Heritage and Nongame Research Program list.

Opportunities and Constraints

Overall Opportunities:

The unique geology of the Blufflands area is a distinct asset as it comprises the spectacular scenery. Likewise, the valley bottoms provide an opportunity for trail users to view the surrounding bluffs from relatively flat terrain. Additionally, the varying seasons and climatic changes allow for different uses at different times of the year making the trail use attractive year round.

It is possible to locate the trail within the floodplain which allows the trail to take advantage of the relatively flat terrain. If the trail is able to take advantage of existing or abandoned developments, such as highway right of way or the abandoned railroad bed, the floodplain will not be altered.

Overall Constraints:

Although the bluffs do provide superb scenery, building a trail on the steep slopes can be difficult, potentially limiting trail options to the valley. By limiting trail development to the valley, the constraints imposed by the presence of wetlands and the floodplain are heightened. As stated earlier, the floodplain can not be altered by new development, such as a trail, while development in a wetland should be avoided, minimized or mitigated.

La Crescent to Hokah Opportunities:

Soils

The only areas with significant areas of suitable soils are directly east of Highway 16 between La Crescent and Miller's Corner and just south of the Root River between Hokah and Miller's Corner. It is therefore advantageous to locate the trail in these areas. In the remaining areas where the soils are primarily unsuitable, locating the trail on the altered soils of the abandoned railroad bed could be a viable solution.

Water Resources

Although development in a wetland is restricted, the abandoned railroad bed between Miller's Corner and Hokah may afford an opportunity to minimize impacts to the wetlands prevalent in the area. Additionally, the three state designated trout streams between La Crescent and Houston and the wetlands which provide habitat to wildlife and vegetation will add to the quality of a trail experience.

Vegetation

The native habitats east of Highway 16 afford trail users the opportunity to see high quality habitat. Likewise, the lack of significant high quality habitat between Miller's Corner and Hokah allows for more flexibility in locating the trail.

Wildlife

The same opportunities that exist for native vegetation exist for rare and endangered wildlife species.

La Crescent to Hokah Constraints:

Soils

Many of the unsuitable soils are hydric and overlap with wetland areas. Therefore, although it is possible to locate a trail within these areas of unsuitable soils, it is likely that soils amendments, or possibly even wetland minimization and mitigation will need to occur. Utilizing the abandoned railroad bed to avoid the unsuitable soils whenever possible is still the most advantageous.

Water Resources

There are regulations at the federal, state and local levels which state that development within a wetland area should be avoided if at all possible. If avoidance and minimization are not possible, then mitigation efforts are required. If the rail grade is not higher than the surrounding wetlands or is found to be a wetland condition itself, then an alternate route may be necessary in this area.

The flooding of the Root River makes it difficult to locate a trail. Therefore, it is important to reiterate that a clear decision regarding a potential trail alignment can not be made until the Root River re-modeling project and dike concerns are addressed, as these decisions would greatly affect the wetlands in the area.

Vegetation

Although high quality habitat can prove to be an asset to the trail, MN DNR requires that these habitats not be disturbed. For this reason, it is important that the trail avoid the high quality habitat east of Highway 16.

Wildlife

The Minnesota Natural Heritage and Nongame Research Program require that wildlife species and their habitat not be disturbed. The habitat east of Highway 16 should therefore be avoided.

Hokah to Houston Opportunities:

Soils

Due to the number of suitable soils adjacent to the Root River between Hokah and Mound Prairie development could occur closer to the river. However, development could also occur on the abandoned rail road bed presuming the altered soils necessary for the railroad are still present. There is more flexibility in trail placement between Mound Prairie and Houston since the soils are primarily suitable west of Mound Prairie.

Water Resources

Since there are relatively few wetlands, delineation of a trail will be fairly flexible. The abandoned railroad bed runs directly through the middle of the primary wetland area between Hokah and Mound Prairie affording an opportunity to avoid the wetlands. As stated earlier, the wetlands and trout streams will add to the quality of the trail experience, and so long as the floodplain is not altered, development can occur within it to take advantage of the flat terrain and amazing scenery.

Vegetation

The high quality native habitats in this section add to the trail users experience just as they do between La Crescent and Hokah. In the area west of Mound Prairie where the habitat quality is not as high, the trail can be more easily located as it does not need to avoid high quality habitat.

Wildlife

As in the La Crescent – Hokah segment, the ability to view rare and endangered wildlife from a trail proves to be a positive quality. Likewise, when rare and endangered wildlife species are not present, the trail does not need to avoid their habitats.

Hokah to Houston Constraints:

Soils

Trail development could still occur in areas where the soils are not suitable between Hokah and Mound Prairie. However, soil amendments would likely be necessary thereby increasing the cost of the trail development. Additionally, since many of the unsuitable soils between Hokah and Mound Prairie are found to be hydric, and lend themselves to wetland conditions, it may be more advantageous to avoid the unsuitable soils in order to avoid flooding or ponding within the trail corridor.

Water Resources

Again, regulations at the local, state and federal level state that floodplains can not be altered by development and that development within wetlands should be avoided, minimized or mitigated. Overall, though, the constraints in the area between Hokah and Houston are slight due to the relative small amount of wetlands.

Vegetation

Again, it is imperative that high quality habitat go undisturbed. For this reason, the trail may need to avoid the areas of significant native habitat. All potential trail alignments must meet the approval of MN DNR.

Wildlife

As stated earlier, the Minnesota Natural Heritage and Nongame Research Program require that wildlife species and their habitat not be disturbed. This is an important consideration in the area between Hokah and Mound Prairie.

CULTURAL RESOURCES INVENTORY

Community Profiles

La Crescent

La Crescent was first settled by Peter Cameron, a native of the state of New York, in 1851. It was at this time that he built a claim shanty and began doing business lumbering and trading fur. He bought 240 acres of land and encouraged people to locate there. Soon after Cameron's death in 1855, Harvey and William Gillett platted a village on the 240 acres, which was sold to the Kentucky Company, who then changed the name from Manton to La Crescent.

The name was changed from Manton to La Crescent because the name Manton was not thought to be "high-toned" enough. The budding town sought to rival the thriving city of La Crosse in its size and importance and so the name La Crescent was chosen instead.

Although La Crescent sought to surpass the development occurring in nearby La Crosse, growth never met expectations, primarily due to a lack of good transportation. The first railroad in the county, the Southern Minnesota Railroad, stopped south of La Crescent in Hokah, in 1866. Railroad transportation came to La Crescent later in 1875.

Since then, La Crescent has enjoyed steady growth, due primarily to the ample opportunities for employment in nearby La Crosse. Currently home to nearly 5,000 residents, La Crescent is known as the Apple Capital of Minnesota, and hosts an annual Apple Festival in September. As the nickname suggests, La Crescent is home to a number of apple orchards, one of which gives tours by appointment. Additionally, La Crescent supports an antique shop and there is a ceramic artist in the township.

La Crescent is home to two historically significant buildings. The Daniel Cameron House is on the National Register of Historic Places and the Gittens House is in the process of receiving the same designation.

Hokah

Hokah, which is named for the American Indian Chief Wecheschatope Hokah, was first settled by pioneers in 1851 by Edward Thompson. Thompson recognized the attributes that made Hokah a desirable place to settle; water power, timber, fertile soil, and the Root River, a navigable tributary to the Mississippi River.

The water power supplied by Thompson's Creek allowed for the development of saw mills, grist mills, and even a brewery along what is now Highway 16. The flour mills especially demanded the production of wooden barrels, which were produced in the cooper shops of the town. In this respect, the water power and ample timber supply helped to create a thriving small town.

The town continued to grow when the Southern Minnesota railroad came in 1866. There were many railroad shops built and machinists were hired to support the railroad and the town prospered. However, in 1880, the Chicago, Milwaukee and St. Paul railroad bought the Southern Minnesota and abandoned the rail infrastructure in Hokah. As a result, many were left unemployed and left the town, causing the closure of some of the flour and saw mills.

According to the 2000 US Census Bureau Report, Hokah has 614 residents. Although the rail and mill industries are no longer as prominent, Hokah is home to 30 businesses. Many of the residents commute to work in nearby La Crosse.

The most lasting attractions in Hokah are the natural features. East of the town lies Mt. Tom, and at its base lies Thompson's Creek, which creates Como Falls. There is a small park with some hiking trails east of Hokah where Como Falls is located. The falls are an excellent photographic opportunity. During the last weekend of August, Hokah hosts Fun Daze, an annual festival.

Houston

Founded in 1852 by William McSpadden, the city of Houston was named after the famous general under whom McSpadden served under during the Mexican War. McSpadden platted the town at the confluence of the Root River and the South Fork of the Root River, east of the present location. By 1854, settlers from Sweden, Norway, Germany, Ireland and New England arrived and steamboats serviced the town from the Root River until the early 1870's.

In 1866, Mons Anderson, a La Crosse native, platted an addition just west of McSpadden's settlement and donated his property to the Southern Minnesota Railroad under the condition that the railroad locate its depot in his new addition. As a result, the town moved west to its current location. By 1874, the town incorporated as a city and grew with the establishment of flour mills, lumberyards, restaurants, saloons, and hotels.

Known as a progressive community, Houston continued to grow into the twentieth century and by 1920 became the center of the county's agriculture industry. The City operated one of the largest cooperative livestock shipping associations in the state, and was a dairy center with three cooperative creameries.

With the switch from rail to automobile traffic, the addition of Interstate Highway 90 fourteen miles north of the City in the 1970's, and the agricultural crisis of the 1980's, Houston began to see a decline in its economic prosperity. In response, the City created a Planning and Zoning Commission, Economic Development Authority, and Tree Board which oversee and promote the assets of the City.

Currently, Houston boasts a number of park and recreation opportunities. Trailhead Park, which the proposed trail will link to, provides access to the 60 mile Root River State Trail. The park features an 18 acre prairie, outdoor shelter, benches, as well as the Houston Nature Center. The nature center is a valuable asset to the community in that it provides educational programs as well as space for community meetings.

Houston is also a Tree City USA and Central Park is a living tribute to this status with many prominent shade trees. In addition to Central Park, the 80 acre South Park located at the southern edge of the city affords numerous hiking and picnicking opportunities.

Houston is home to a number of annual events and festivals, most notably the Houston Triathlon, a canoe, bike and run race which takes place the third weekend in May, and the Houston Hoedown, which occurs the last full weekend in July. Houston is an integral city to the proposed trail as it will provide the connection to the Root River State Trail. With Trailhead Park and the numerous restaurants and trail users will find many amenities in Houston.

Native People – Oneota Indians

Long before the white settlers came to the communities of Houston County, the Oneota American Indians inhabited the area. Generally, these people inhabited small villages ranging from several to more than a hundred acres which were located in the river valleys. The Oneota lived in southern Minnesota as well as western Wisconsin and northeastern Iowa. This tribe is presently referred to as the Ioway, Ojibwa, Missouri, or Winnebago.

The Oneota often planted their crops of corn, pumpkin, beans and squash in the floodplains in order to take advantage of the rich soils, similar to modern farmers. However, due to flooding and frost problems, the Oneota used ridged or terraced fields in order to provide better drainage while gaining a few more frost-free days.

Archeologists have found artifacts of the Oneota's daily life, such as pottery, bones, and tools, in the bell-shaped pits which were used for winter food storage. These pits were lined with clay, filled and then sealed. After being emptied, the pits were used for garbage.

The Oneota traded with neighboring tribes to procure stones and other materials not otherwise available to them. As the Europeans moved westward, the Oneota traded for items such as brass kettles, glass beads, and knives and guns.

However, by trading with the Europeans new diseases plagued the Oneota and, like so many other Native Americans, they were forced from their traditional homelands further west. Although a confirmed date is unknown, the Oneota were no longer in southern Minnesota by 1700.

Currently, there are a few tribal lands near La Crescent. These lands are listed under listed as belonging to Little Sam of the Wisconsin Ho-chunk Nation, formerly known as the Wisconsin Winnebago. The land is not classified as a reservation but is part of the Winnebago property.

Root River History

Although the Root River proved to be advantageous to early settlers because of the access it provided to the Mississippi River, the river did not come without disadvantages. With a valley that stretches nearly two miles wide, the Root River has a long history of flooding, and this history is integral to both local city residents and farmers.

In 1917, Hokah residents and area farmers endured one of the worst floods on record, with three feet of water standing in some areas. The flood prompted local citizens to implement a plan to straighten the Root River, a plan that had been in discussion for nearly thirty years. For two years, the river was dredged and new channels were created, and, as the *Houston Signal* reports, a 'judicial ditch' was created. The judicial ditch process allowed for land to be condemned and then used for the dike and river channel.

The dredging and straightening of the river alleviated the flooding problems effectively until 1980. A flood during this year caused residents to take action because portions of the agricultural dike failed. It was at this time that the federal government questioned the authenticity of the judicial ditch status of the dike.

A flood in February, 2005 caused more damage to the dike, causing farm fields as well as the city of Hokah to severely flood. This flood is once again prompting discussion on how to better control flooding and minimize damage in the Root River floodplain. There are arguments in favor of repairing the existing ditch and also arguments in favor of abandoning the ditch and allowing fields to flood so that conveyance to the Mississippi River can occur. There are five main solutions currently being considered. The first solution is to repair the existing ditch and the second option is to remove portions of the ditch and allow certain fields to flood. The third solution is the use the original channel of the Root River as an overflow channel. Another solution calls for completely restoring the original river channel and reconnect it to the main river. Finally, the agricultural dike could be removed and completely rebuilt according to modern standards.

These options are in preliminary discussion and it may be quite some time before a decision is made regarding which option will be implemented.

Railroad History (Figures 11, 12, and 13)

As mentioned earlier, the first railroad, the Southern Minnesota Railroad, came to Houston County in 1866. The railroad was vital to the economic prosperity of the towns, evident in both Hokah and Houston's history. By 1880 though, the Chicago, Milwaukee and St. Paul railroad abandoned the rail infrastructure. Although the railroad was abandoned, evidence of its presence remains today. In many areas, the railroad grade remains intact and is as much as ten feet above the surrounding grade although in some sections, the railroad grade has been washed out by floods or dismantled in an effort to control floods. In many areas of the abandoned grade, a clear gravelly path exists, devoid of any trees.

The abandoned railroad bed is an important amenity, both because it signifies a turning point in the development of the county, and in its physical characteristics. Potentially, it could afford an opportunity for travel along a historically significant route, while allowing for access in otherwise inaccessible areas, such as wetlands or unsuitable soils.

PROPERTY DATA

Public Landowner Considerations (Figures 14, 15, and 16)

US Fish and Wildlife Upper Mississippi River Wildlife Refuge

The Upper Mississippi River Wildlife Refuge of the US Fish and Wildlife Service is located primarily east of Highway 26, with some parcels located in the area between Miller's Corner and Hokah. Excluding river refuges in Alaska, the Upper Mississippi River Wildlife Refuge is the largest river refuge in the country, covering over 261 miles. The goal of the US Fish and Wildlife Service refuges is to "conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people."

The US Fish and Wildlife Service, as part of a May, 2005 Draft Environmental Impact Statement and Comprehensive Conservation Plan (EISCCP) made note of its desire to acquire, from willing land sellers only, a portion of the Root River valley as part of the Upper Mississippi River Wildlife Refuge. The area between Miller's Corner and Hokah is one area of the Root River Valley proposed for US Fish and Wildlife acquisition.

US Fish and Wildlife land acquisition could potentially affect a proposed trail alignment, because of use limitations. The draft EISCCP notes the inclusion of trails within the jurisdiction of the Upper Mississippi River Wildlife Refuge and although trails are allowed on refuge property, the use of snowmobiles is prohibited. For this reason, a multi-use trail as proposed by the Houston County Trails Group will need to be reassessed accordingly, pending potential land acquisition.

Root River and Mound Prairie Wildlife Management Areas

There are two Wildlife Management Areas (WMA) between La Crescent and Houston. The Root River WMA is located within the Miller's Corner and Hokah segment and the Mound Prairie WMA is located between Hokah and Mound Prairie. Both Wildlife Management Areas were created to support habitat for game and nongame species. WMAs are open to the public for hunting and wildlife watching purposes.

Trails are not allowed on WMA lands. Since WMAs serve as hunting grounds for many hunters, limiting trail traffic within a WMA is logical. Additionally, trail development will undoubtedly impact the habitats which are meant to be protected. Due to these reasons, a multi-use trail must avoid both the Root River and Mound Prairie Wildlife Management areas.

Mound Prairie Scientific and Natural Areas

The Mound Prairie Scientific and Natural Area is located just south of Mound Prairie in sections 3 of the Mound Prairie township. According to the Minnesota State Statutes 86A.05 subdivision 5, Scientific and Natural Areas (SNA) are "established to protect and perpetuate in an undisturbed natural state those natural features which possess exceptional scientific or educational value." In keeping with this mission, trails are strictly prohibited within SNAs. In general, only facilities that will support the research of the SNA are allowed. Trails, because of their physical impact upon the environment as well as the impacts brought upon by users are not allowed because they are in contradiction of the SNA mission. For this reason, a proposed trail must avoid the Mound Prairie Scientific and Natural Area.

Richard J. Dorer Hardwood Forest

The Richard J. Dorer Hardwood Forest is located within 7 counties including: Dakota, Fillmore, Goodhue, Olmsted, Houston, Wabasha, and Winona. The state forest boundary is a statutory boundary and much of the land within the forest is held by private landowners rather than the state. There are sections of the forest that are owned by the state, however.

The state forests were created in order to produce timber, provide outdoor recreation, protect watersheds, and perpetuate rare and distinctive species of native flora and fauna. These forests are managed in a sustainable manner by the state in order to ensure a high quality forest. Recreation of all types is permitted on state forest lands.

Trails are permitted on state-owned state forest land. However, the trail location must be approved through a public participatory process, such as a public hearing. A state-owned section of the Richard J. Dorer Hardwood Forest is located near Mound Prairie.

Conservation Reserve Program (CRP)

The Conservation Reserve Program is a voluntary program in which farmers are paid to establish conservation measures on their farmland. In return for putting the land in conservation for a designated contract period, farmers are assisted financially with rental or conservation implementation costs. According to the Federal Register of the USDA, 1410.63 Permissive

Uses, “Unless otherwise specified by the Deputy Administrator, no uses of any kind are authorized on designated CRP acreage during the contract period.” Trails are not listed as a permitted use.

There is a parcel of land in section 33 of the Hokah Township which is currently under a CRP contract. At this time, given the restrictions above, it is recommended that the trail alignment avoid this parcel of land.

However, Section 1410.32 CRP Contract States (f, 1) “CRP contracts may be terminated by CCC (lending agency) before the full term of the contract has expired if: (1) The owner loses control of or transfers all or part of the acreage under contract and the new owner does not wish to continue the contract”. Therefore, should the land ownership change, there is a possibility that the restrictions regarding trail construction change as well.

Reinvest in Minnesota Reserve Program

The Reinvest in Minnesota Reserve Program is a state-level program designed to protect and improve water quality, reduce soil erosion, and enhance fish and wildlife habitat by removing agricultural lands from production in to managed conservation programs. Similar to the CRP program outlined above, landowners voluntarily put their land in the RIM program in exchange for financial payment.

Not unlike the CRP program, trails are not allowed on RIM land.

Minnesota Department of Transportation Right of Ways

Minnesota Department of Transportation right of ways may or may not be utilized for the trail corridor. At this time, it is unclear which right of ways could be used for trail development and which could not. MNDOT will make this determination after a review process whereby Houston County will request use of the right of way. Houston County will need to identify where the trail is proposed via maps and supporting documentation, specifically outlining why the right of way is necessary. MNDOT will then hold an internal review where Hydrolics, Traffic, Design, Planning and Environmental Concerns will make comments and either approve or reject the request for a limited use permit.

Private Landowner Considerations

La Crescent to Hokah

Although a potential trail alignment could utilize highway right of way or other public land, it is inevitable that much of the trail corridor will fall within the property lines of private landowners. The Houston County Trails Group has taken great initiative in trying to speak to landowners and discover their opinions about the possibility of a trail on their properties. As a result of these conversations, the Trails Group is able to identify willing and reluctant landowners and explore potential trail corridors accordingly. The Trails Group is not interested in locating a trail on a reluctant landowner’s property. Rather, they would prefer to explore alternate routes to avoid such landowners.

At least one landowner between Hokah and Miller’s Corner has been identified as being reluctant, while another landowner is willing under the condition that the trail be accessible to snowmobiles.

Hokah to Houston

At this time, only preliminary discussions with landowners have occurred to determine which are willing and which are reluctant in terms of locating a trail on their properties. For this

reason, potential trail alignments have not yet been explored in depth. A very preliminary delineation follows as a result of the Open House meeting, described in the section six.

SECTION FOUR – OUTSTANDING ISSUES

Hokah to Miller's Corner

As stated earlier, the area between Hokah and Miller's Corner poses trail planning challenges due to the increased flooding occurring within the Root River valley. As a result of the flood in February 2005, MN DNR, the US Fish and Wildlife Service, Houston County Soil and Water Conservation District, US Army Corps of Engineers and local landowners are trying to determine how to best prevent floods and damage in the future. The US Army Corps of Engineers is in the process of remodeling the flood frequencies of the river and until this modeling project is completed, an educated decision regarding the future of the Root River valley is unlikely.

The US Fish and Wildlife Service, as part of a May, 2005 Draft Environmental Impact Statement and Comprehensive Conservation Plan made note of its desire to include a portion of the Root River valley as part of the Upper Mississippi River Wildlife Refuge. (It should be noted that US Fish and Wildlife Service will only obtain land from willing land sellers) In the event that US Fish and Wildlife does acquire this property, plans for a multi-use trail will need to be reassessed. The draft EISCCP does note the inclusion of trails within its jurisdiction of the Upper Mississippi River Wildlife Refuge, but prohibits the use of snowmobiles on upland areas. For these reasons, the multi-use trail proposed by the Houston County Trails Group will need to be reassessed accordingly.

Likewise, there have been discussions about improving the dikes which are currently failing to hold the Root River during flood events. Should the dike be improved, this may impact the current flood conditions in the area, which would in turn impact the development of a multi-use trail. Additionally, MN DNR is also considering options which may allow conveyance (flooding) onto certain properties while maintaining the river channel in other areas. If conveyance is allowed, this could impact the wetland conditions of the area which again would impact a proposed trail alignment.

Since the future of the valley and Root River dike is as yet unknown, it is difficult to commit to a trail alignment between La Crescent and Hokah. The pending decisions regarding the future of the valley are important considerations because they can affect the uses and alignment of the trail. For this reason, it is recommended that development of this segment occur after these important decisions have been made to ensure that the trail be designed in the most environmentally as well as fiscally responsible manners.

SECTION FIVE – TRAIL ALIGNMENTS

General Overview of the Trail Alignment –Hokah-Miller’s Corner Segment

The Blufflands State Trail is a legislatively authorized state trail which, when fully realized, will provide a connection to other Minnesota state trails such as the Shooting Star State Trail, Stagecoach State Trail, and the Goodhue Pioneer State Trail. In addition to connecting to Minnesota state trails, the Blufflands State Trail will provide connections to Wisconsin state trails.

The six-mile trail segment between La Crescent and Hokah will provide a connection between the two cities and is important and necessary in realizing the Houston County Trail system. This portion of the trail is divided into two segments; from Hokah to Miller’s Corner, and from Miller’s Corner to La Crescent.

Hokah to Miller’s Corner

Trail Option A (Figure 17)

Description of the Trail Environment

This corridor begins in Hokah and runs north along Highway 16, taking advantage of an existing bike lane. At this point, the trail turns east one half mile from the bridge to follow an existing driveway which turns north and then east. The trail continues in an easterly direction until it meets and goes on top of the abandoned railroad grade which is approximately ten feet higher than the surrounding grade. By using the altered soils and higher topographic position of the abandoned railroad grade the trail can avoid many of the wetlands and unsuitable soils as indicated on the maps.

The bridge at the corner of Highway 16 and Highway 26 (Miller’s Corner), built by MN DOT, was designed to allow for bicyclists to pass beneath it to minimize safety concerns at this high-speed intersection. However, upon a site inspection, it seems that the underpass is completely flooded and may not be useable. Therefore, an at grade crossing may be necessary at Highway 26. Discussions with Minnesota Department of Transportation and other agencies, such as MN DNR, US Fish and Wildlife, US Army Corps of Engineers and the Root River Soil and Water Conservation District are recommended to clarify whether or not the bridge may be used as intended and if not, if using MN DOT right of way is acceptable.

Opportunities:

- Utilize existing bike lane on HWY 16 coming out of Hokah
- Using Highway 16 as the bike lane allows access through the Root River Wildlife Management Area
- Utilizing existing driveways and service roads may equate to less construction costs
- Utilize over a mile of abandoned rail road bed to avoid floodplain impacts
- Potential to utilize underpass built by DOT at Miller’s Corner (pending discussions)
- Avoids wetlands and unsuitable soils by utilizing the abandoned railroad grade
- Provides snowmobile access which avoids CRP and Fish and Wildlife lands

Constraints:

- Prior to joining with abandoned railroad bed, the trail would be required to run through a wetland area, which involves mitigation issues.
- One landowner is reluctant to have a multi-use trail on his property.
- The DOT bridge at Miller's Corner may not be useable.

Trail Option B (Figure 18)*Description of the Trail Environment*

This trail option was considered in order to avoid a private landowner's property. The trail comes north out of Hokah and utilizes the existing bike lane on Highway 16 and turns east at the service road, just as in option A. However, when the trail reaches the Root River, it turns directly north until it reaches Highway 16 where the highway runs in a more or less east-west direction. When the trail dead ends into Highway 16, it turns easterly until it reaches the intersection of Highway 16 and Highway 26. In this option, the trail crosses at the same grade of the intersection.

Although this option does avoid the private property as requested by the landowner, it is not a preferable trail corridor. This trail would run through a large number of wetlands, which would require mitigation in order for development to occur. Additionally, it seems unlikely that MN DOT will be willing to grant a permanent easement in order to the trail to exist within the DOT right-of-way.

Opportunities:

- Utilize existing bike lane on HWY 16 coming out of Hokah
- Using the bike lane on Highway 16 allows access through the Root River Wildlife Management Area
- Avoids private landowner property upon landowner's request
- Provides snowmobile access which avoids CRP and Fish and Wildlife lands

Constraints:

- Wetlands are prevalent within the trail corridor, requiring impact minimization or mitigation
- It is unlikely that a permanent easement for a trail to exist within the MN DOT right-of-way will be granted.
- The DOT bridge at Miller's Corner may not be useable.

Trail Option C (Figure 19)

This option begins at the intersection of County Highway 7 and State Highway 16 just north of Hokah. From this intersection, the trail crosses Thompson's Creek and runs in a northeasterly direction parallel to and in between County Highway 7 and the Root River. This portion of the trail would require sensitive design solutions, as the area between the Root River and County Highway 7 is quite narrow. The trail continues in this northeasterly direction running parallel to the Root River as the Root River makes a turn due east. A portion of the land lying adjacent to the river is in the Conservation Reserve Program. Ideally, the trail could cross the Root River at the prior to reaching the CRP land and then head north, crossing an agricultural field, until it reaches the abandoned railroad grade. Just as in option A, the trail could utilize the abandoned

railroad grade in order to avoid the unsuitable soils and wetland conditions. However, utilizing the railroad grade may involve using the property of a reluctant landowner, although it may be possible to avoid this landowner's property and use only the southern half of the railroad grade.

Opportunities:

- Takes advantage of the suitable soils south of the Root River
- Potential to avoid reluctant landowner's property
- Taking a route south of the Root River avoids the Root River Wildlife Management Area
- Takes advantage of a portion of the abandoned rail road bed to avoid unsuitable soils and wetlands and impact to floodplain
- Portion of trail south of Root River could also serve as a horse trail
- Provides snowmobile access which avoids CRP and Fish and Wildlife lands

Constraints:

- Trail needs to cross both Thompson's Creek and Root River, potentially increasing costs
- Right-of-way between County Highway 7 and the Root River is quite narrow
- Trail still may need to utilize some property of the reluctant landowner
- The DOT bridge at Miller's Corner may not be useable.

Alternatively, in order to completely avoid the reluctant private landowner's property, the trail could skirt south of the CRP land and then turn north at the end of the CRP land. Although the trail would cross a much larger portion of the agricultural field, it would avoid the private property as requested. This is not as desirable, both because of the disturbance to the field as well as the probability for more wetland disturbance. Utilizing as much of the abandoned railroad grade as possible is most advantageous.

Miller's Corner to La Crescent

Description of the Trail Environment

From Miller's Corner, the trail would emerge from either beneath or above State Highway 26 to continue on toward La Crescent. There are a series of mitigation wetlands immediately east of Miller's Corner, which the trail must avoid. Potentially, the trail could follow the highway right of way and utilize the higher land, although further discussions with MN DOT are necessary to make this conclusion.

As the trail continues north toward La Crescent, there are few ideal locations for a trail alignment. The land between the highway and the active rail line is quite steep in some areas, and the space is fairly narrow. However, this is the most feasible location for the trail, as locating it east of the railroad could negatively impact wetlands and native vegetation and wildlife habitat. In order to locate the trail between the railroad and highway, both MN DOT and Iowa, Chicago and Eastern Railroad Corporation will need to grant permission to build within their rights of way.

This section of the trail is also described in the La Crescent Bicycle and Pedestrian Plan written by the La Crosse Area Planning Committee. They cite the same concerns regarding grade and

right of way issues and mention that MN DOT plans to eventually widen MN16 into a four-lane highway. For this reason, the La Crescent Bicycle and Pedestrian Plan, and this plan, suggest that trail planning occur congruently with any major infrastructure planning.

Due to the high frequency and speed of traffic on MN16, safety is of the utmost concern in connecting the trail to La Crescent. To accommodate such a connection, the La Crescent Bicycle and Pedestrian Plan recommends a pedestrian and bicycle signal to facilitate safe crossings at the intersection of South 14th Street and MN16.

Hokah-Houston Alignment

Alignments for the Hokah-Houston segment have not been explored in depth because discussions with landowners have not yet occurred. After discussing the trail with local landowners, alignments can begin to be delineated.

SECTION SIX –PUBLIC MEETING SUMMARY AND FUTURE WORK

On August 24, 2005, the Houston County Trails Group hosted an open house at the Hokah Fire Hall for local citizens to learn more about the trail planning process while giving citizens an opportunity to express their concerns and other feedback. Large, color maps depicting the natural resources inventory, proposed trail alignments for the La Crescent-Hokah segment, and images of the abandoned railroad bed were on display with Trail Group members stationed near the images to answer questions. Later, a Power Point presentation was given to outline the goals of the trail, trail benefits, natural and cultural resources inventory, proposed trail alignments and future work. Following the presentation the following thoughts, questions and concerns were expressed:

- What liability issues are associated with allowing a trail on private property?
- How can the displacement of rare species be avoided?
- Who's responsible for trail maintenance?
- There are rattlesnakes and wolves in the area. What happens if a trail user gets bit or attacked?
- If there is a trail on private property, can hunting still occur?
- What happens if someone hurts themselves on the trail? Who's responsible?
- How will a trail improve economic prosperity?
- Will a trail increase vandalism and/or trespassing?
- What if a trail is not wanted on the property?

In addition to the above questions and concerns, some landowners expressed their own opinions regarding a trail on their property, which has been noted. Additionally, landowners shared valuable information regarding flood patterns between Hokah and Houston, which sections of the railbed are still intact, and areas of Ducks Unlimited land between Mound Prairie and Houston.

As a result of the information gained at the open house, an initial preliminary route between Hokah and Houston has been delineated for the purposes of further discussion. It should be noted that this delineation is not meant to be viewed as an alignment, but rather as a starting point to discuss potential alignments.

Description of the Trail Environment

One landowner, located south of the Root River and northwest of Hokah, exhibited extreme apprehension toward a trail on her property. For this reason, it is suggested that the trail go north on Highway 16, and then cross onto Walcker Drive to head west through the Root River Wildlife Management Area. Although this drive is within the Root River WMA, it may be possible to reach an agreement with the MNDNR to allow a trail within the WMA property. Additionally, based on information from the MNDNR website and MNDNR Data Deli, it is unclear as to the distinct WMA property boundaries, making discussions with DNR even more pertinent.

In any case, the trail could follow the road within the Root River WMA west, north of the Root River until it gets to a point midway between Hokah and Mound Prairie where County Highway 21 and the Root River nearly meet. At this point, the trail could cross the Root River and head west until it joins with the abandoned railroad bed. Following the abandoned railroad bed is logical because it allows for development on an existing, unused development, resulting in

less impact to the environment. However, in order to utilize the railroad bed, the trail would need to go through a small portion of the Mound Prairie Wildlife Management Area. Again, discussions with MNDNR will be necessary.

As the trail continues to head west out of Mound Prairie, it could follow the abandoned railroad bed and then more closely follow the southern edge of the Root River. In this area, much of the railroad bed is no longer present, and is very close to the present Highway 16. Therefore, a more favorable trail experience could be had nearer the Root River.

There is a point midway between Mound Prairie and Houston where the Root River and Highway 16 come very close to one another. It is just east of this point that the trail could cross the river and follow it on its northern edge for approximately one and a half miles. The reason for this additional crossing is that the landowners south of the Root River and west of this point are reluctant to having a trail on their properties. However, a landowner north of the trail is also reluctant, so further discussions with these property owners will need to take place. After heading due west for the one and a half miles the trail could use the Highway 76 right of way and head due south until it reaches Trailhead Park and join with the existing Root River Trail.

As this is a preliminary look at a potential trail alignment, it requires much further study. However, the following opportunities and constraints present themselves with this possibility.

Opportunities:

- Avoids reluctant owners near Hokah and Houston.
- Utilizes abandoned railroad bed and avoids steep hills near Mound Prairie, as well as wetlands and unsuitable soils.
- Using a northern route near Hokah avoids some wetlands.

Constraints:

- Utilizes WMA property, which may not be acceptable.
- Requires two river crossings, thereby increasing costs.
- Crossings at Highways 16 and 76 are potentially dangerous.
- Trail still utilizes reluctant landowner property.

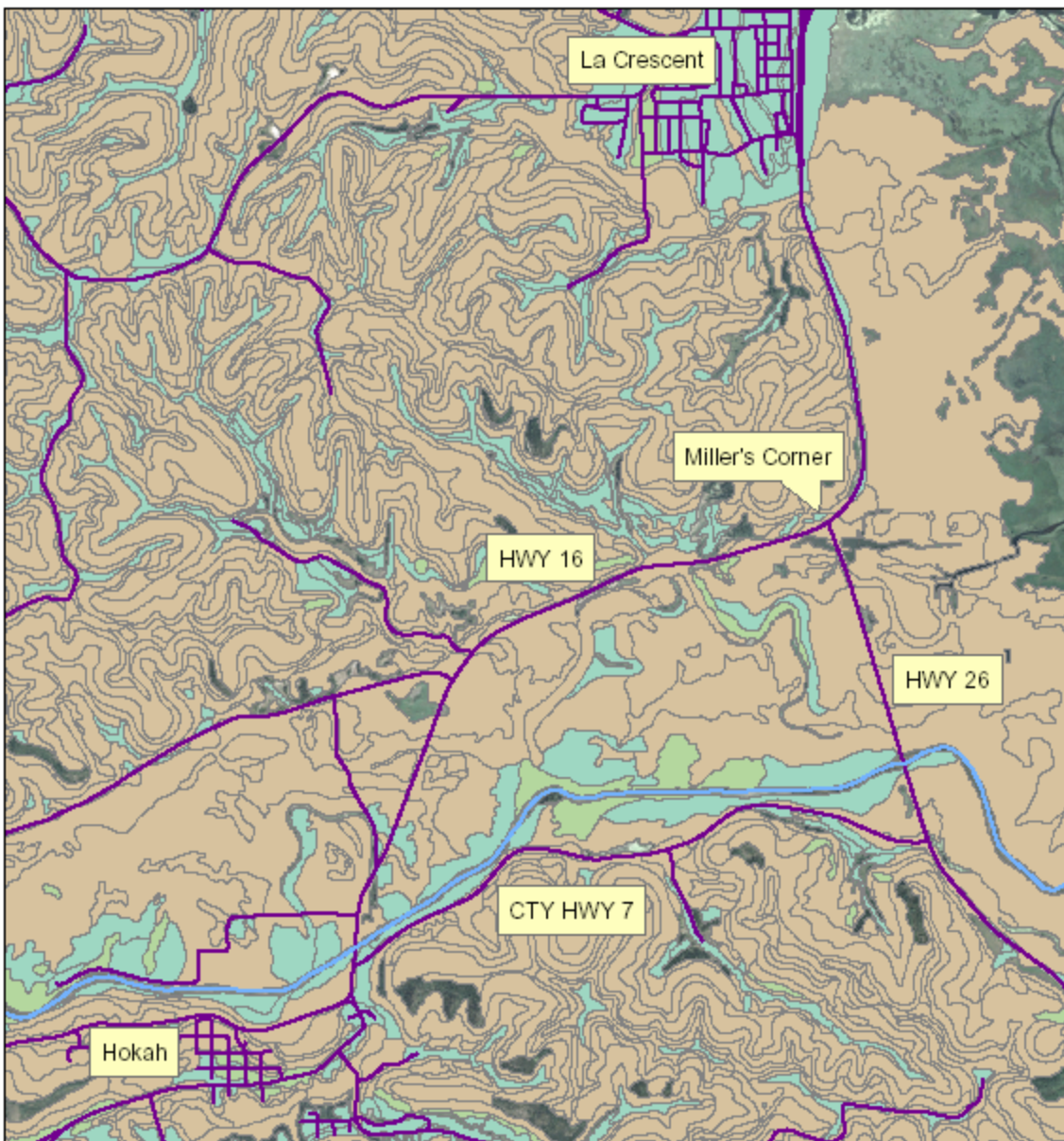
Future Work

This preliminary alignment can provide a starting point for further discussions. This alignment would use more highway right of ways as well as WMA land, requiring conversations with the applicable agencies. Furthermore, this trail alignment has been delineated with minimal input from private property owners. At this point, only a few property owner considerations have been taken.






In addition to gaining more information from property owners, it will be important to contact MNDNR regarding trail placement and rare and endangered species in the area. Also, trailhead locations in Hokah and La Crescent will help complete the trail.

APPENDIX

Soils - La Crescent to Hokah



Legend

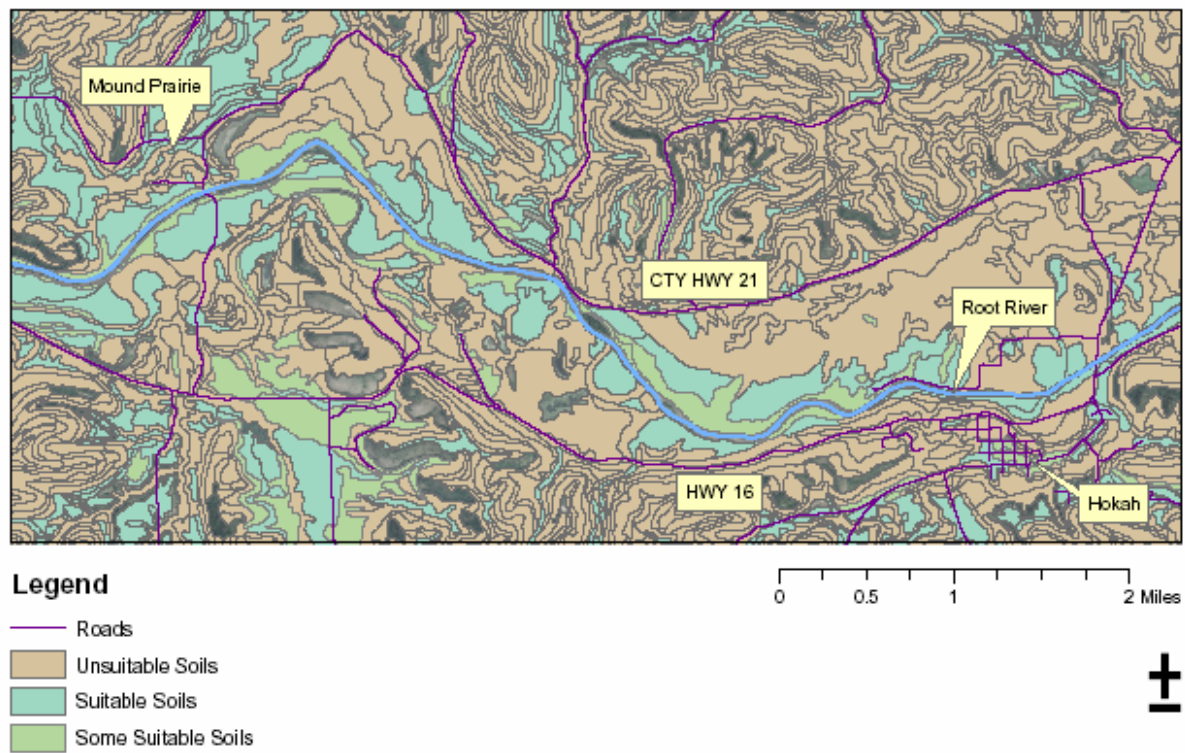
-  Roads
-  Root River
-  Unsuitable Soils
-  Suitable Soils
-  Some Suitable Soils

0 0.5 1 2 Miles



Figure 2

Soils - Mound Prairie to Hokah



Soils - Houston to Mound Prairie

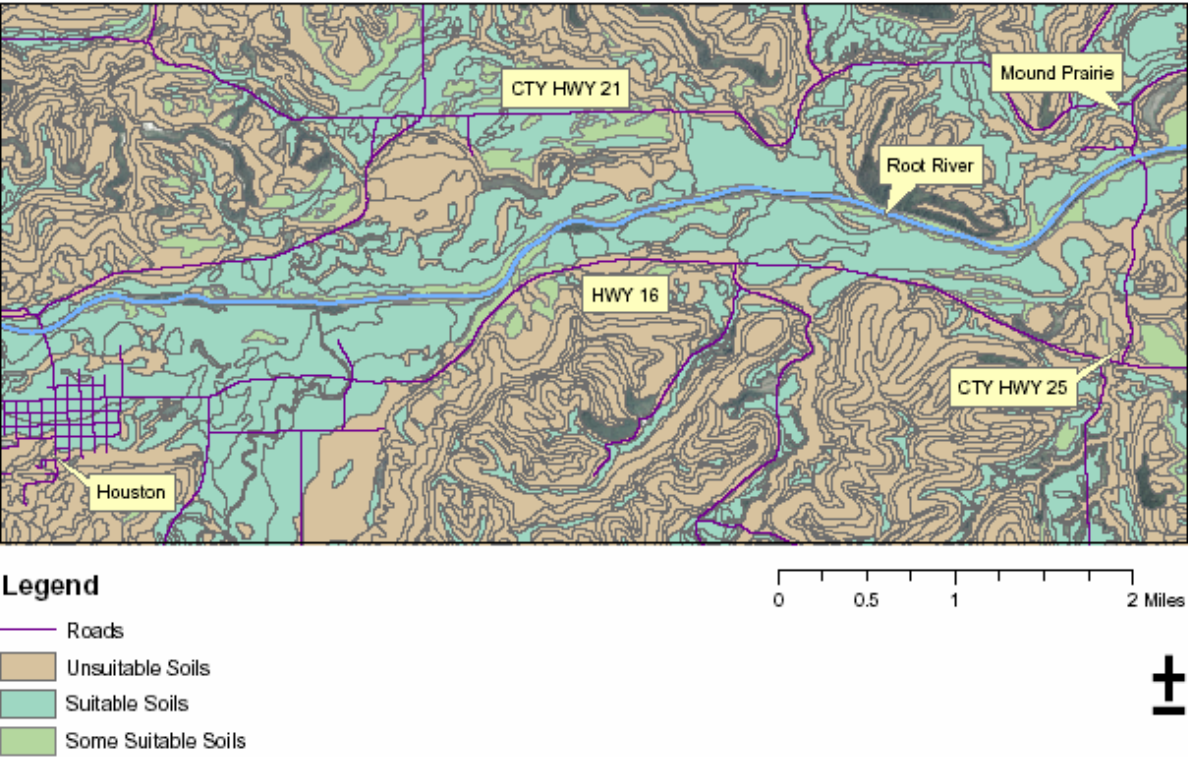
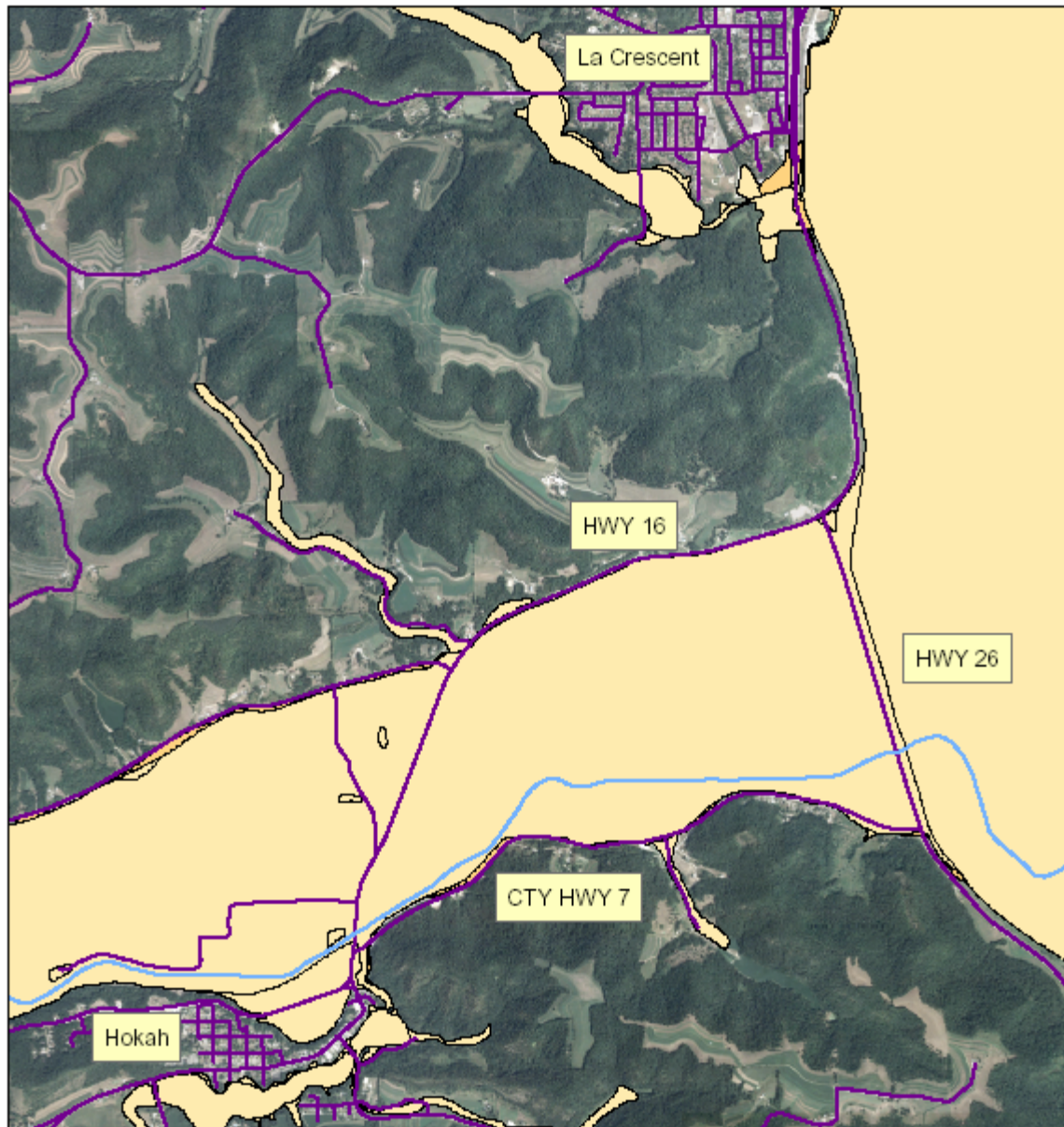


Figure 4

FEMA Floodplains - La Crescent to Hokah



Legend

- Roads
- Root River

FEMA Floodplain

Floodplains

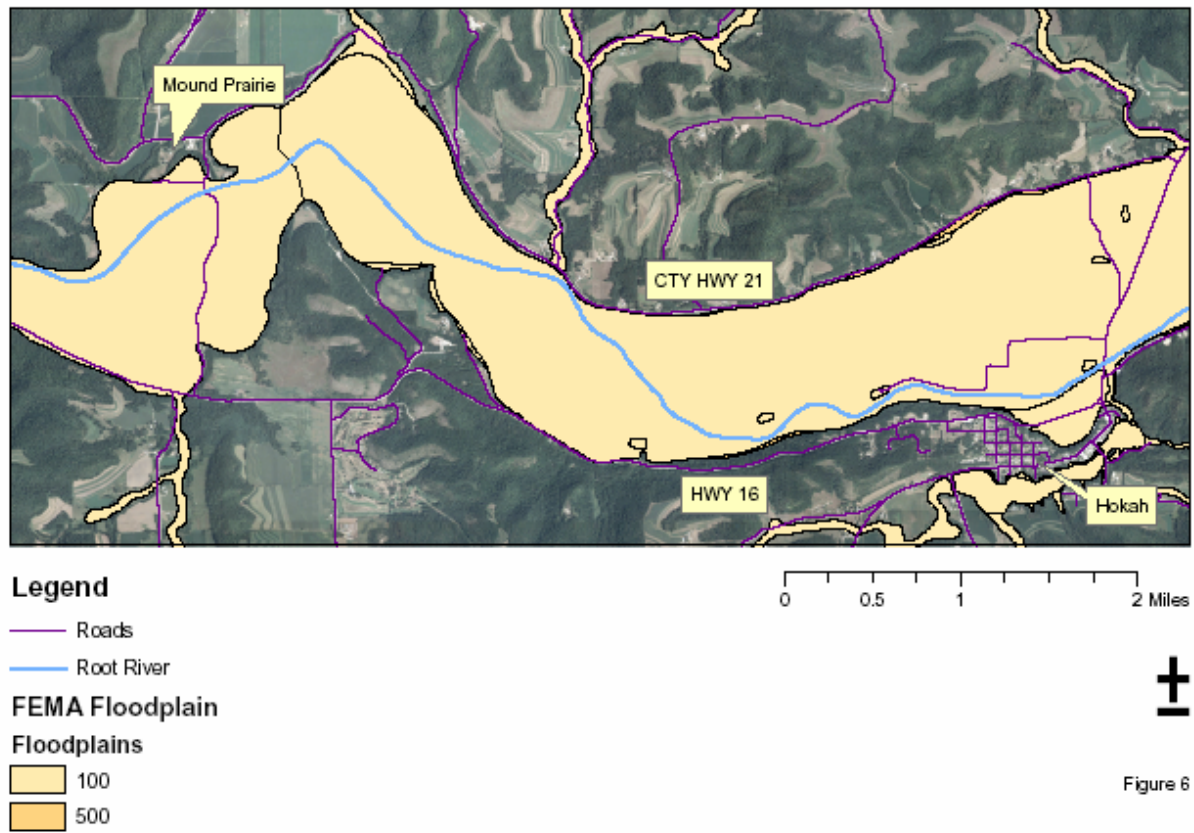
- 100
- 500

0 0.5 1 2 Miles

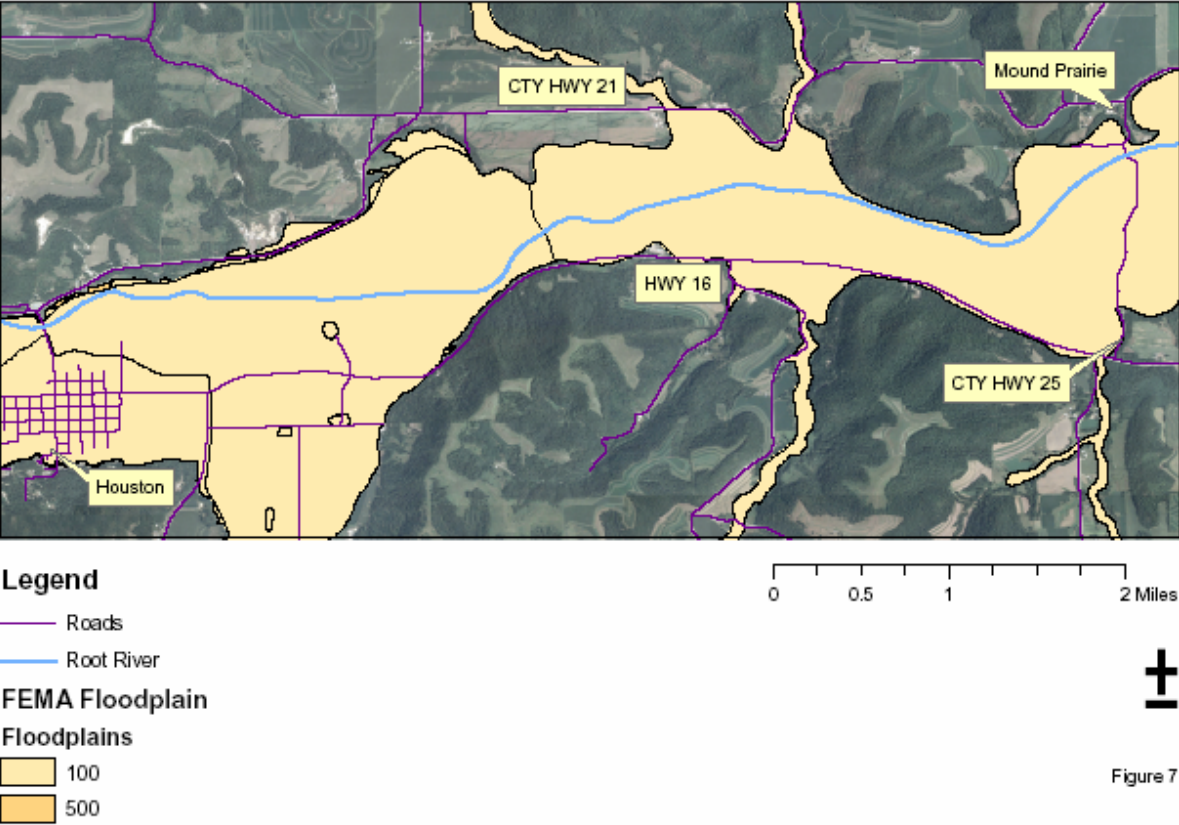


Figure 5

FEMA Floodplains - Mound Prairie to Hokah



FEMA Floodplains - Houston to Mound Prairie



Wetlands - Miller's Corner to Hokah

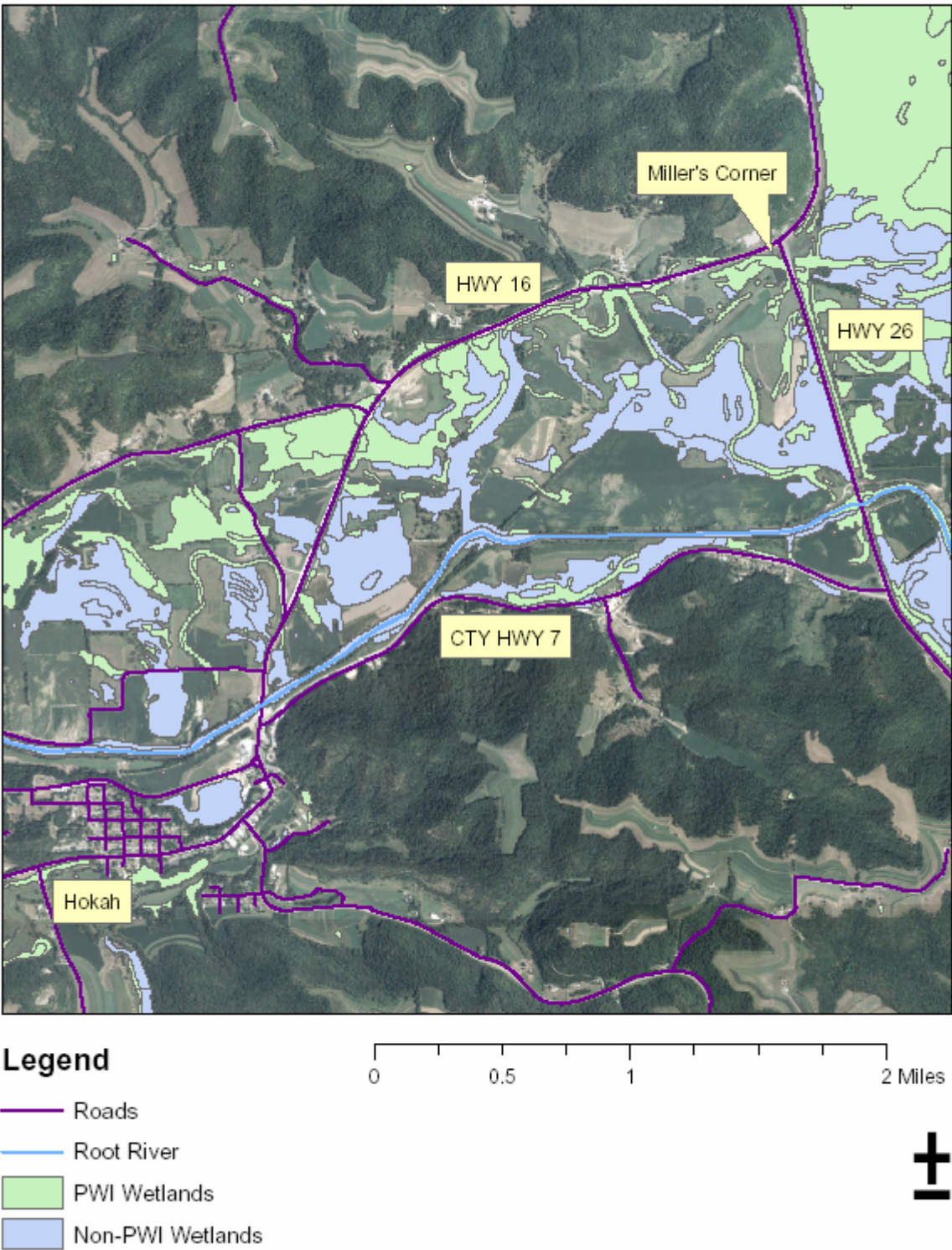


Figure 8

Wetlands - Mound Prairie to Hokah

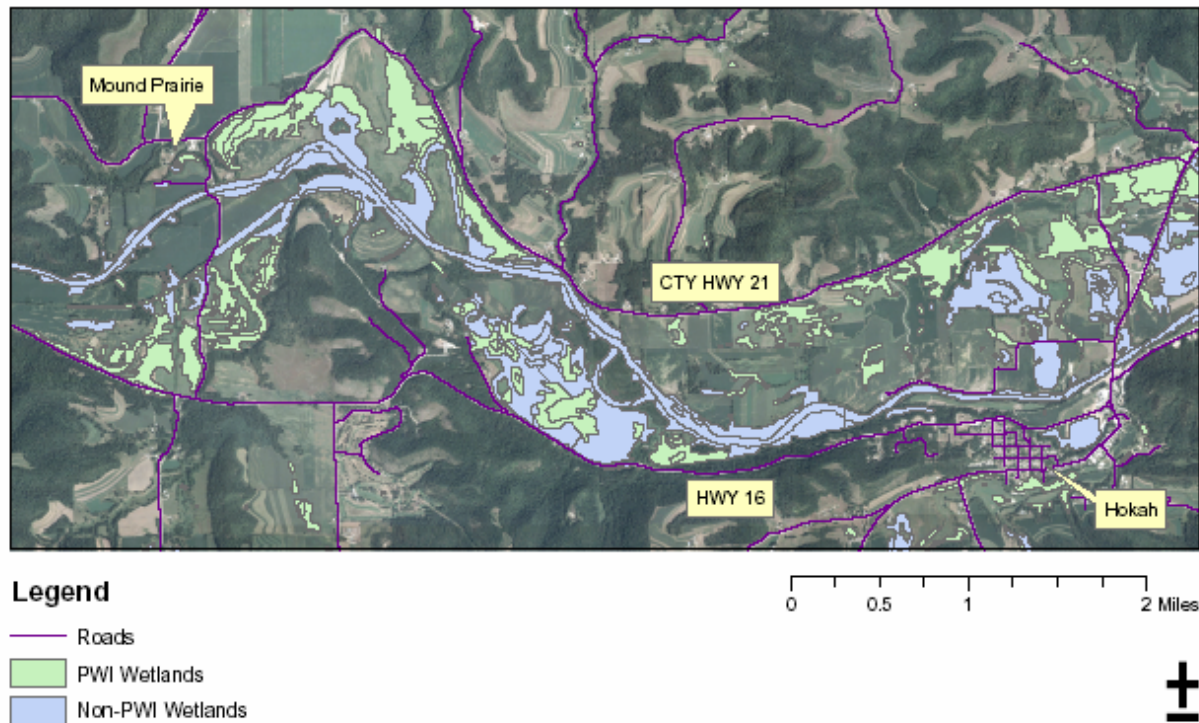


Figure 9

Wetlands - Houston to Mound Prairie

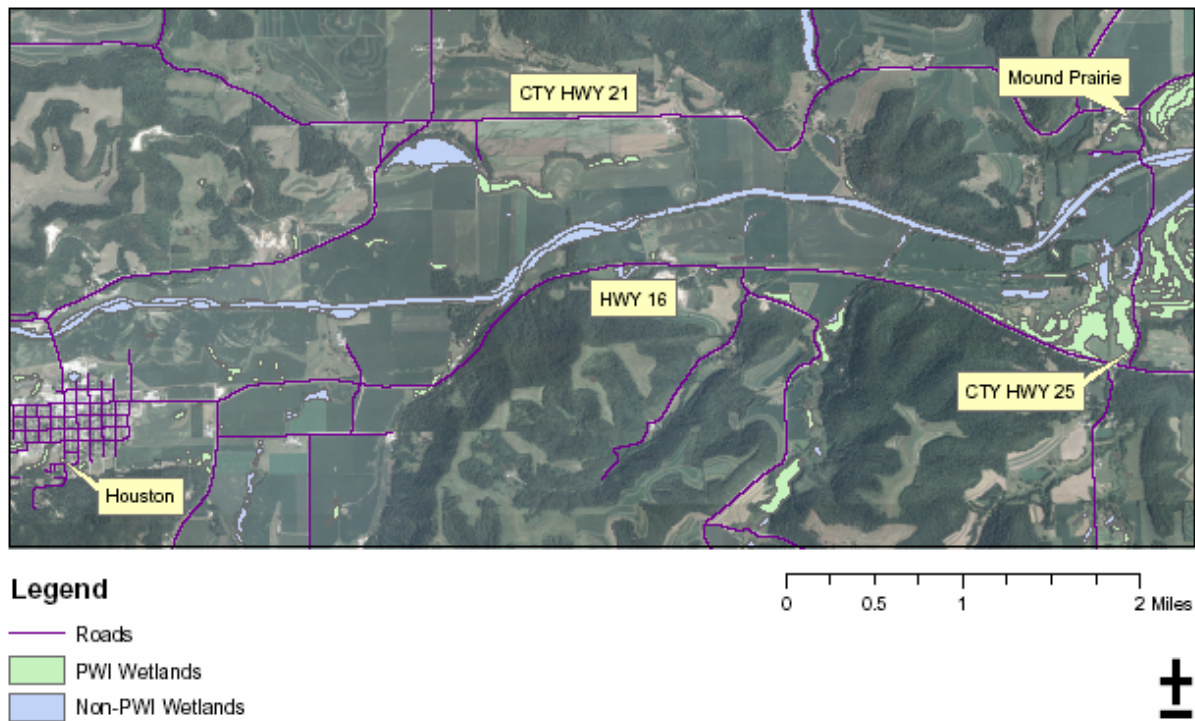


Figure 10

Abandoned Railbed - La Crescent to Hokah



Legend

— Abandoned Railroad

0 0.35 0.7 1.4 Miles



Figure 11

Abandoned Railbed - Mound Prairie to Hokah

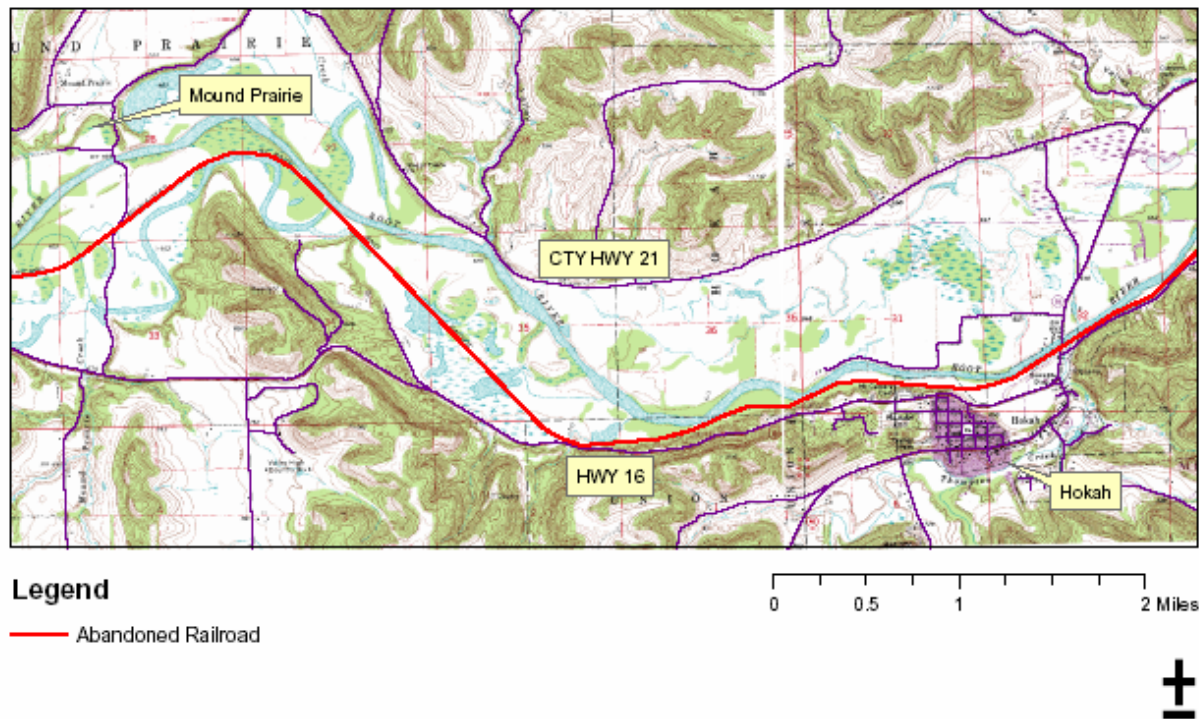


Figure 12

Abandoned Railbed - Houston to Mound Prairie

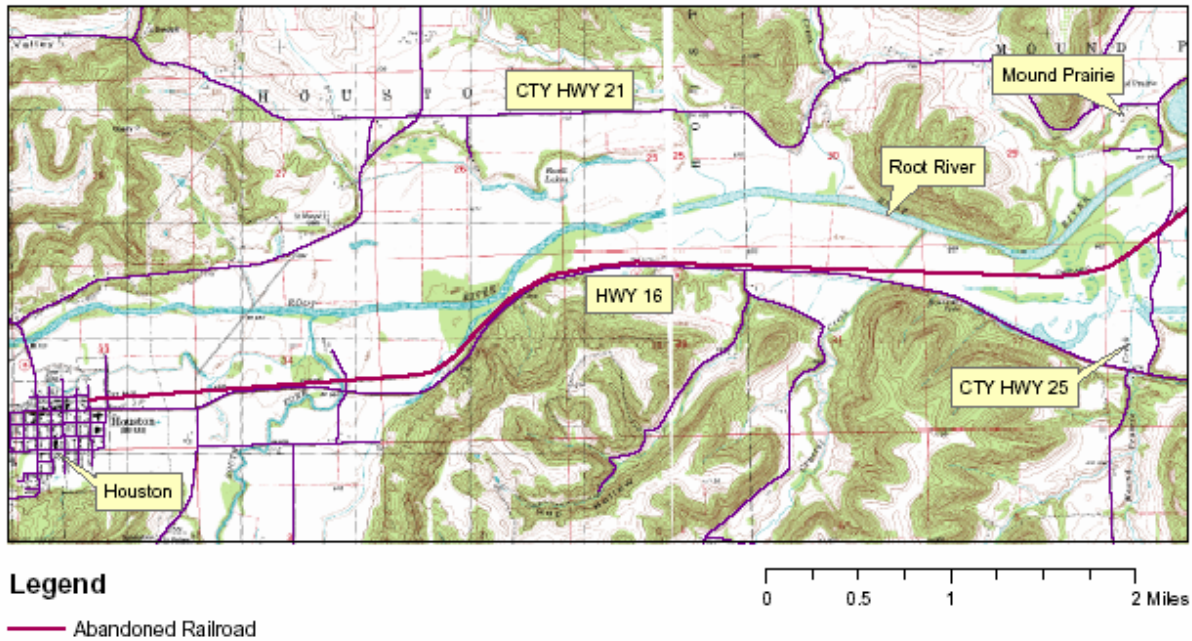
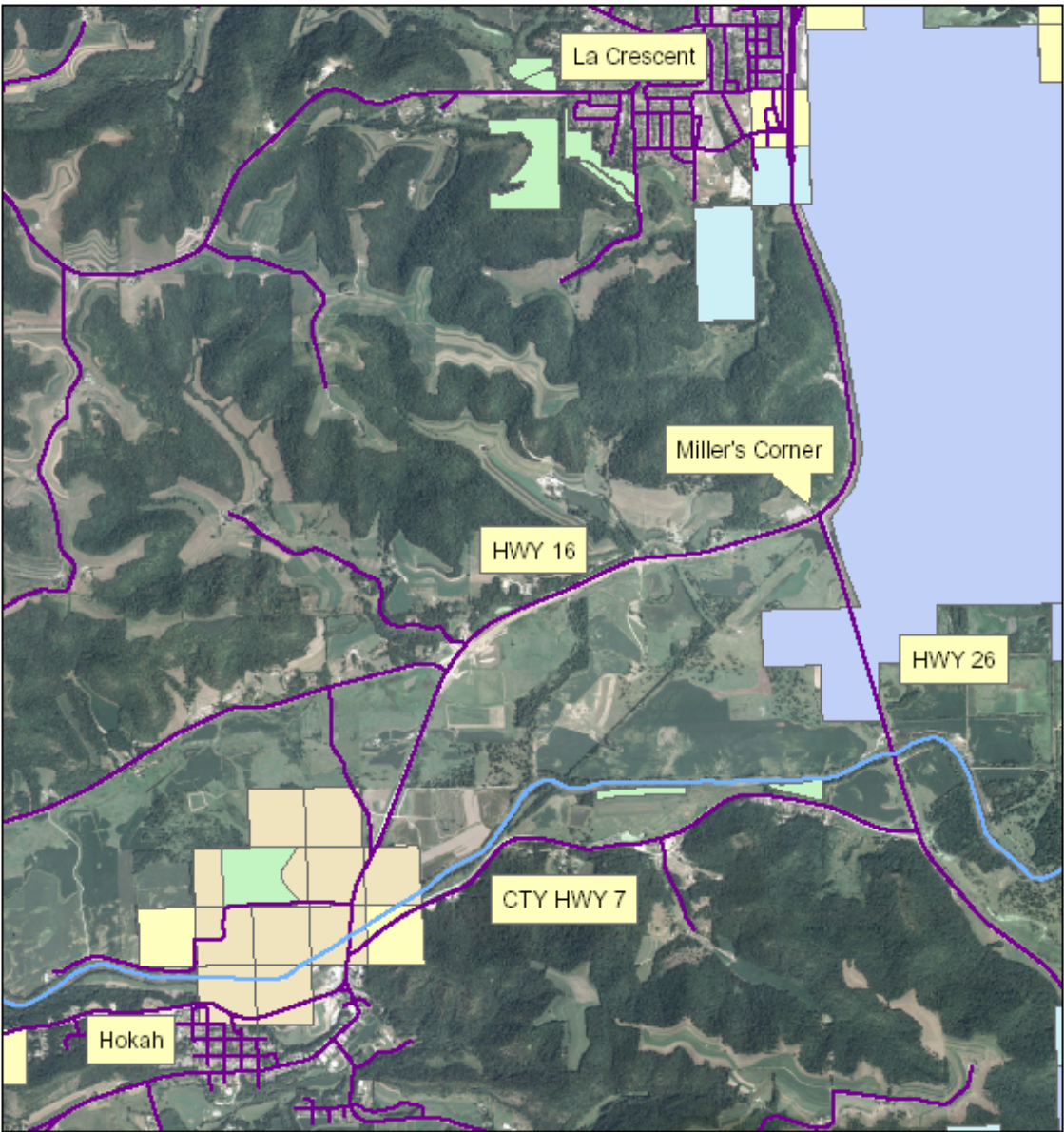


Figure 13

Public Landowners - La Crescent to Hokah



Legend

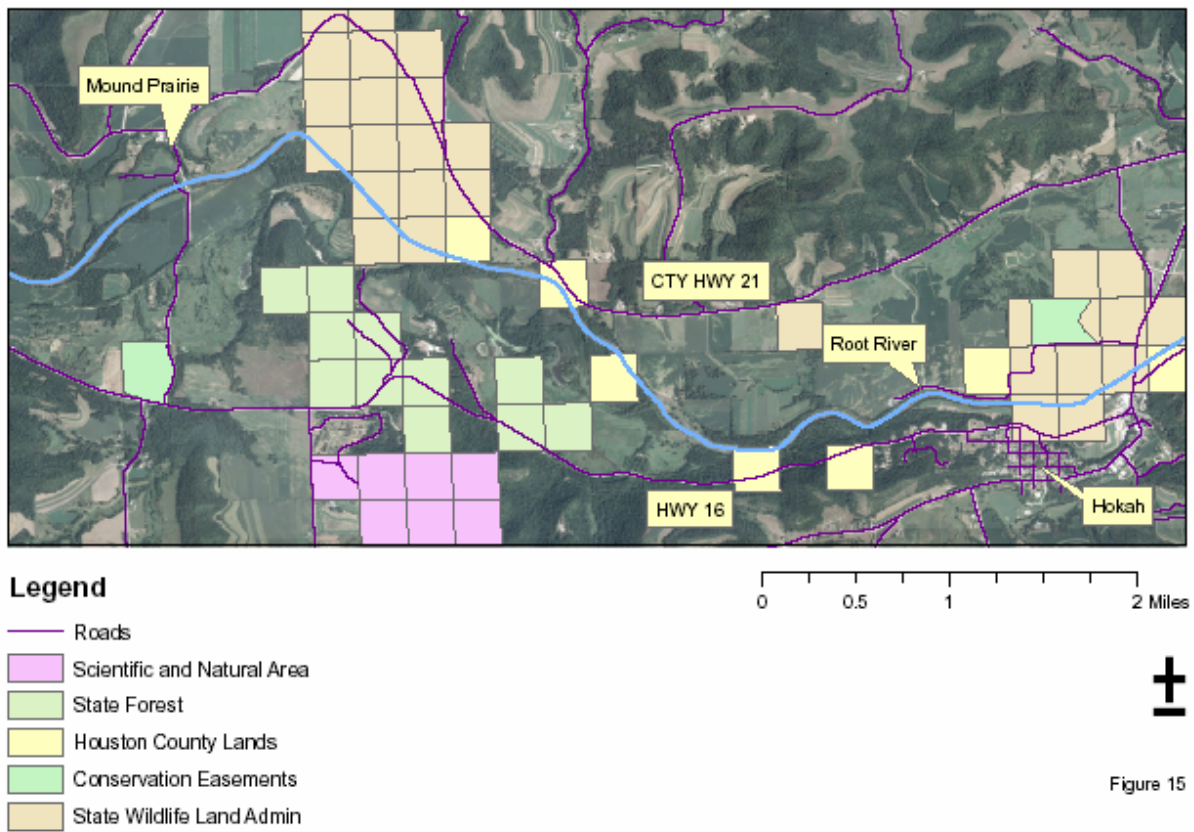
- Roads
- Root River
- Tribal Lands
- State Wildlife Land Admin
- Conservation Easements
- Houston County Lands
- US Fish and Wildlife

0 0.5 1 2 Miles



Figure 14

Public Landowners - Mound Prairie to Hokah



Public Landowners - Houston to Mound Prairie

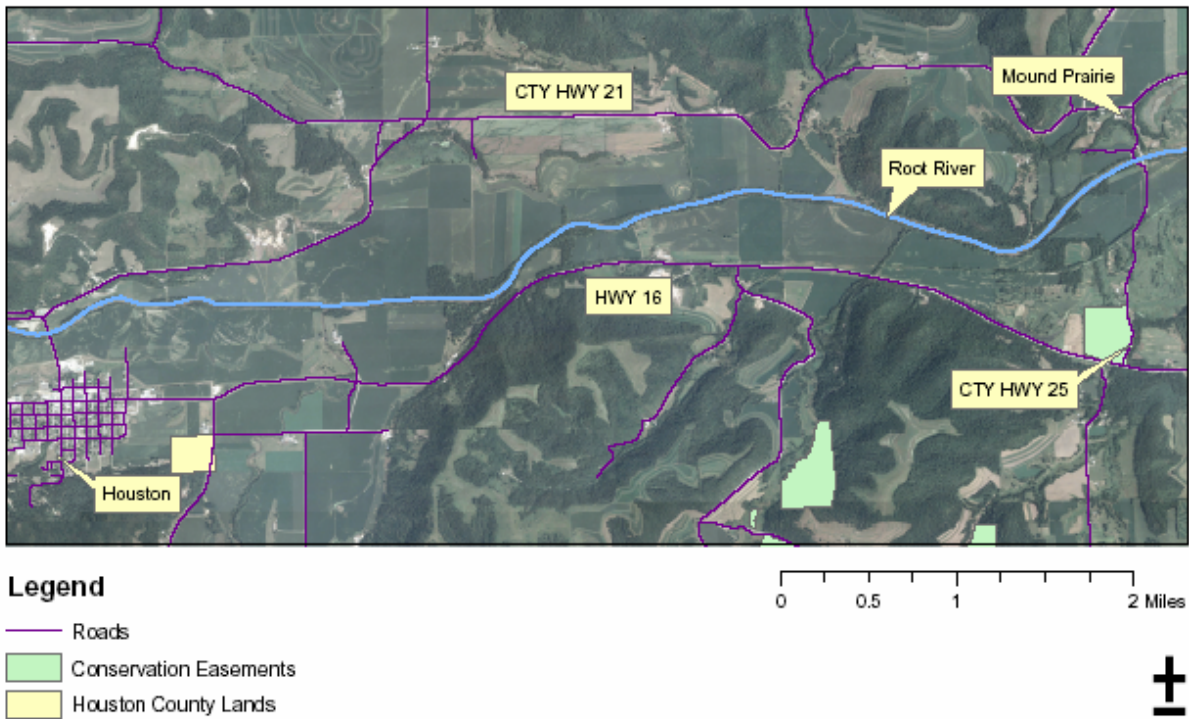
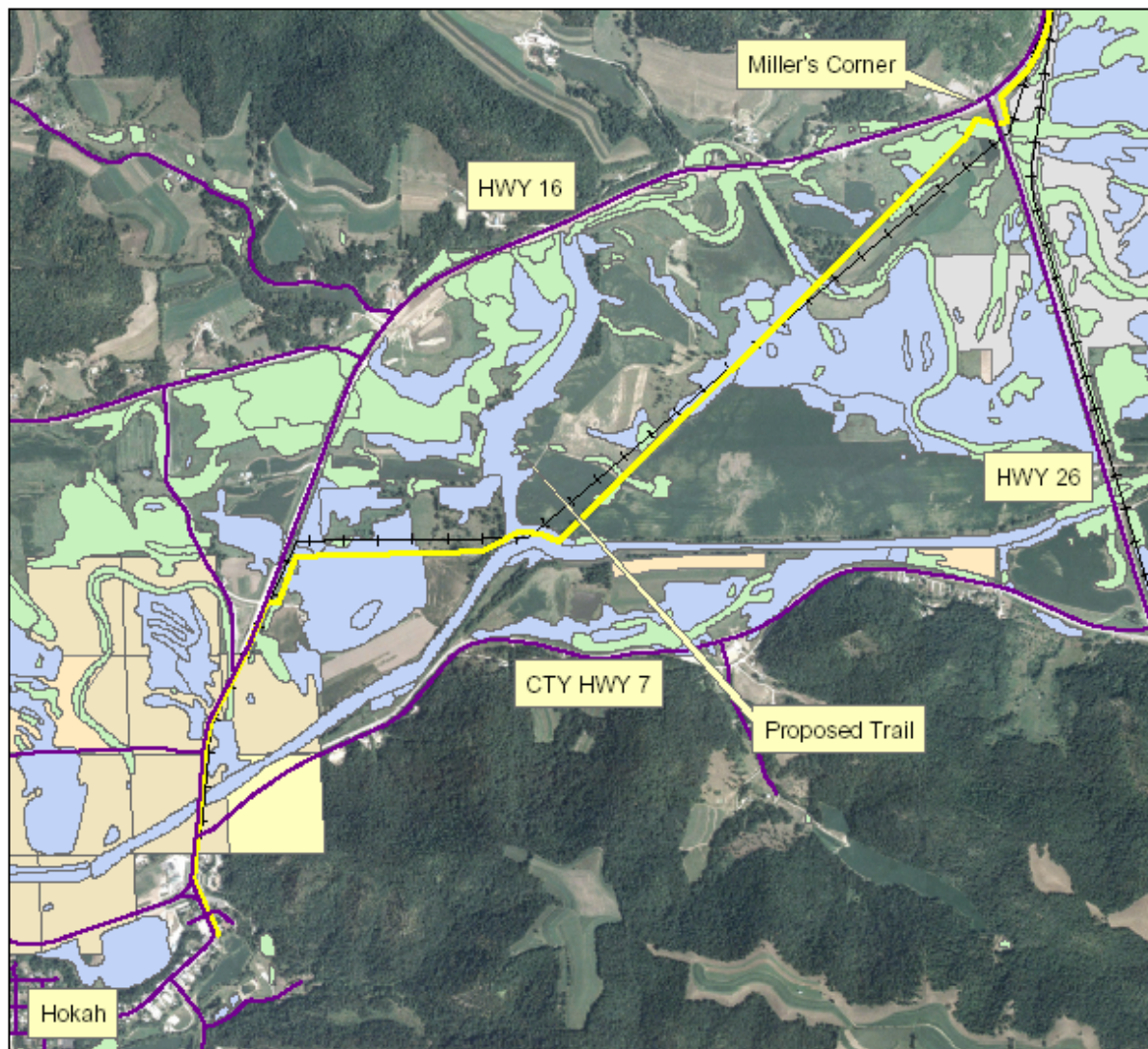


Figure 16

Trail Option A - Miller's Corner to Hokah

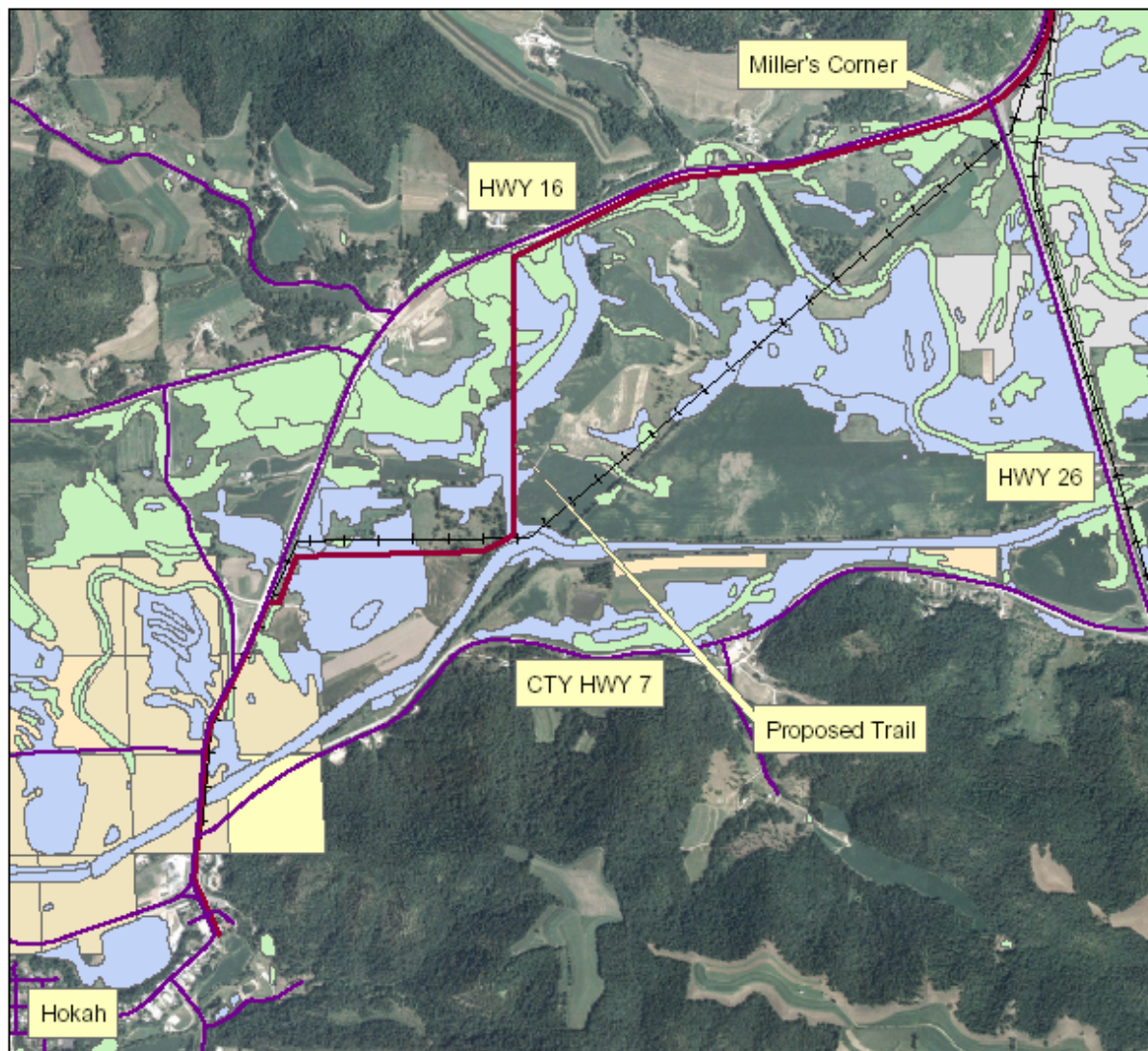


Legend

Roads	US Fish and Wildlife
Trail Option A	Houston County Lands
Non-PWI Wetlands	Conservation Easements
PWI Wetlands	State Wildlife Land Admin

Figure 17

Trail Option B - Miller's Corner to Hokah

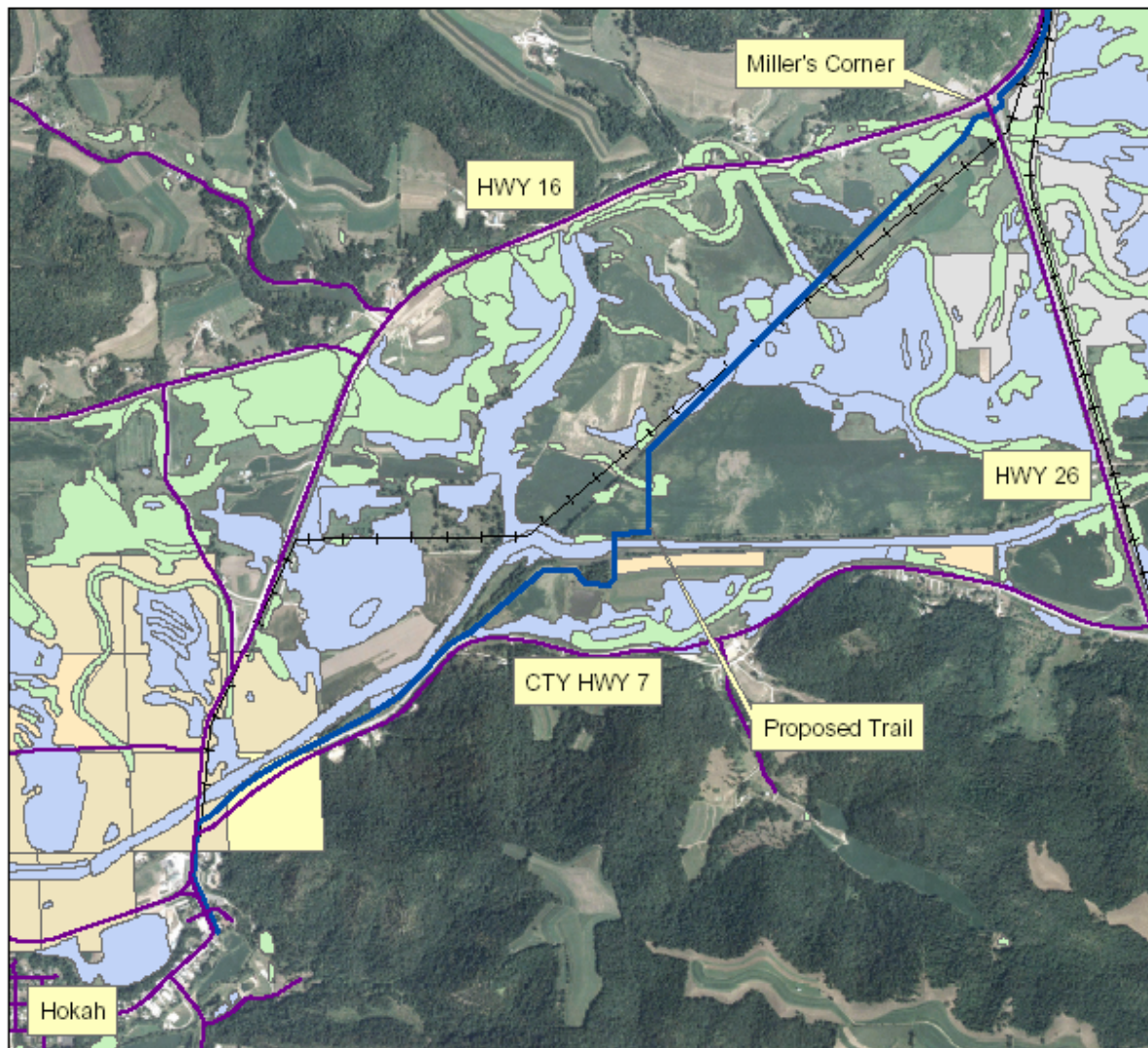


Legend

Roads	US Fish and Wildlife
Trail Option B	Houston County Lands
Non-PWI Wetlands	Conservation Easements
PWI Wetlands	State Wildlife Land Admin

Figure 18

Trail Option C - Miller's Corner to Hokah



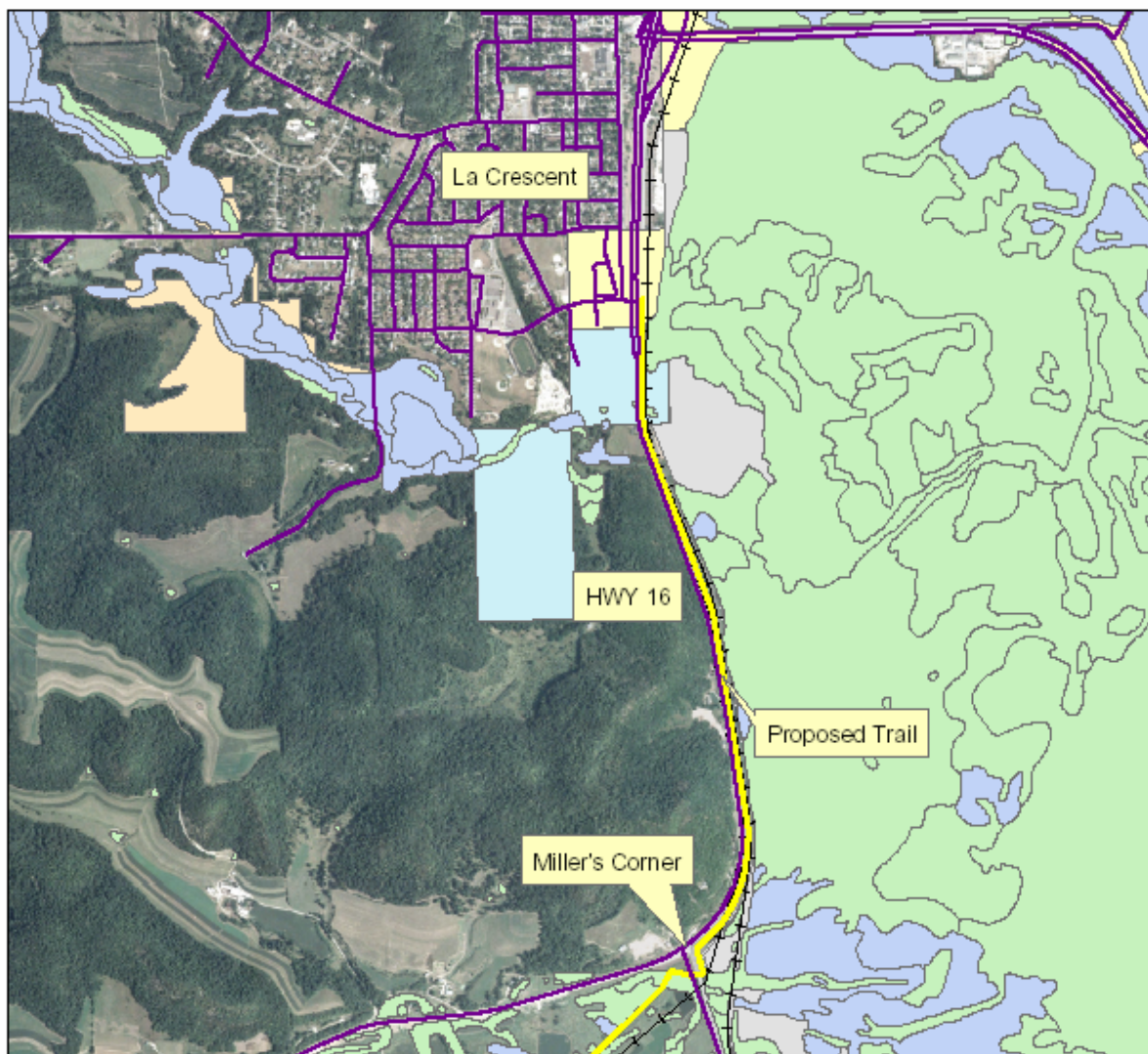
Legend

Roads	US Fish and Wildlife
Trail Option C	Houston County Lands
Non-PWI Wetlands	Conservation Easements
PWI Wetlands	State Wildlife Land Admin



Figure 19

Trail - Miller's Corner to La Crescent



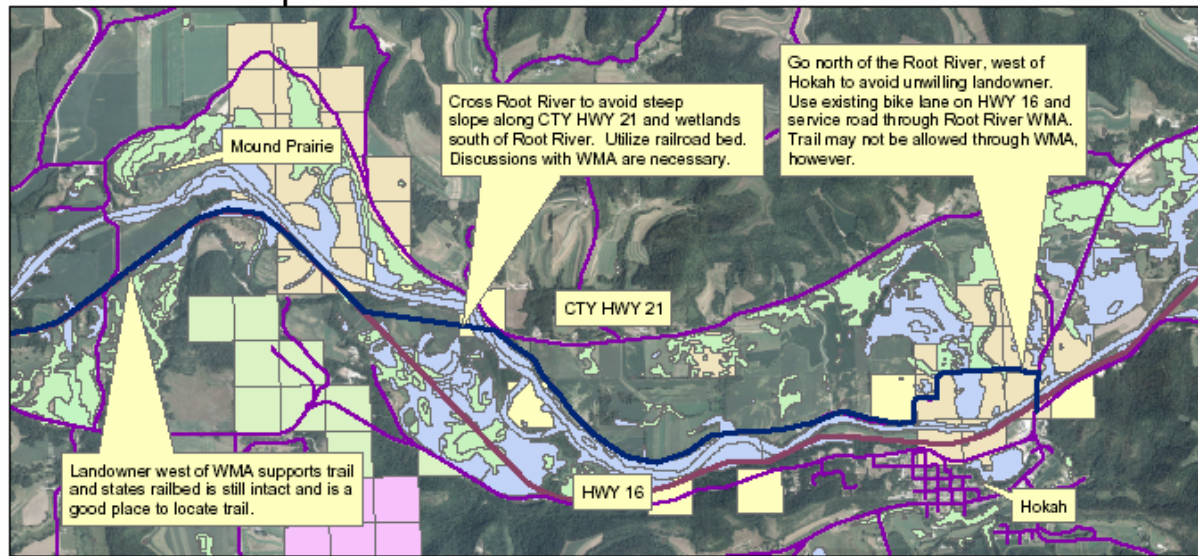
Legend

Roads	US Fish and Wildlife
Trail	Houston County Lands
Non-PWI Wetlands	Conservation Easements
PWI Wetlands	State Wildlife Land Admin



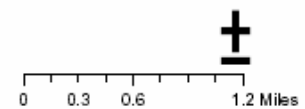
Figure 20

Possible Trail Option - Mound Prairie to Hokah

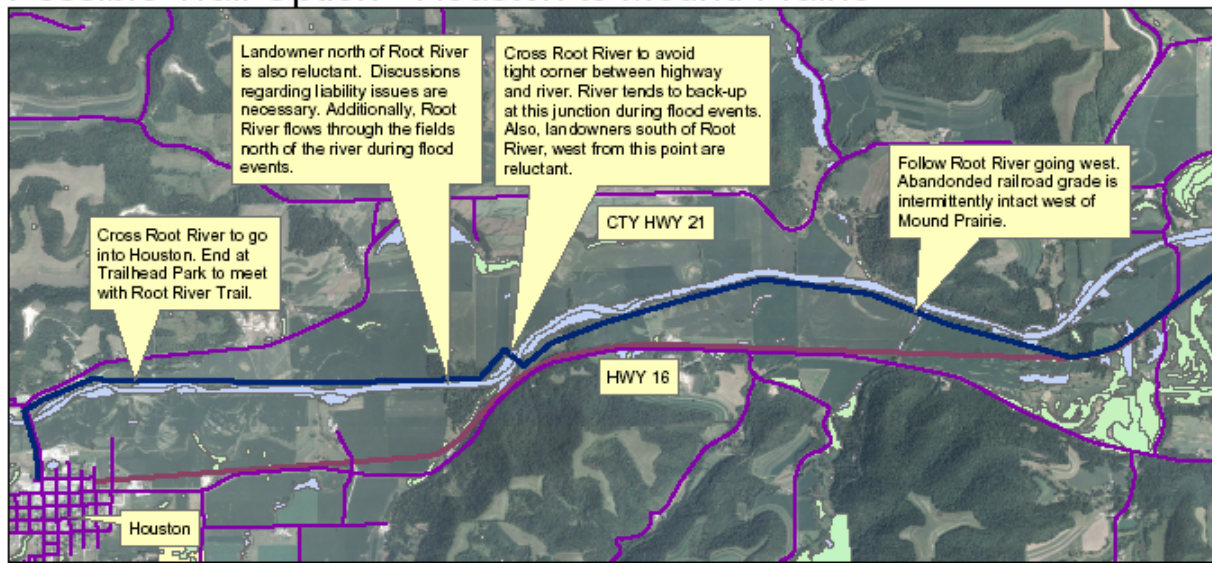


Legend

— Possible Trail	 Scientific and Natural Areas
— Roads	 State Forest Land
— Abandoned Rail	 Houston County Lands
 Non-PWI Wetlands	 Conservation Easements
 PWI Wetlands	 State Wildlife Land Admin



Possible Trail Option - Houston to Mound Prairie



Legend

Possible Trail	Scientific and Natural Areas
Roads	State Forest Land
Abandoned Rail	Houston County Lands
Non-PWI Wetlands	Conservation Easements
PWI Wetlands	State Wildlife Land Admin

